

Date of Birth July 8, 1959

Place of Birth Nairobi, Kenya

Higher Doctorate

2000/2001 D.Sc. (Physiology)
John Moores University, Liverpool

Education

1986 Ph.D. (Kinesiology: Specialization, Physiology)
University of California, Los Angeles

1984 M.S. (Kinesiology)
University of California, Los Angeles

1980 B.Sc. (Applied Physiology/Sports Science, Honours)
Liverpool Polytechnic, England

Academic Appointments

2006-2009 Visiting Professor
School of Sport and Health Sciences, University of Exeter, England

1999- Professor
Departments of Kinesiology, Anatomy and Physiology, Kansas State University

1994-1999 Assistant/Associate Professor
Departments of Kinesiology and Anatomy/Physiology, Kansas State University

1992-1994 Assistant Professor
Department of Medicine, University of California, San Diego

1990 Assistant Research Physiologist
Department of Medicine, University of California, San Diego

1990-1992 Lecturer
Department of Biology, University of California, San Diego

1987-1990 Post-Doctoral Fellow,
Department of Medicine, University of California, San Diego

1986-1987 Post-Doctoral Fellow, Department of Medicine
University of California, Los Angeles

1985 Research Associate, Department of Kinesiology
University of California, Los Angeles

1982-1985 Teaching Associate, Department of Kinesiology
University of California, Los Angeles

Research Grant Awards, Awarded. Total dollars awarded to D.C.P. as Principal Investigator = \$5,087,195

A. Microcirculatory Function

- 2015-2018 National Institutes of Health, HL-2-108328 “Heart Failure & Aging: Mechanistic Bases of Muscle Vascular Dysfunction.” Total costs: \$375,000. PI: D.C. Poole, Co-PI’s: T.I. Musch, P. Fong, M.J. Kenney. Cardiology expert consultant: Dr. Justin Thomason.
- 2013-2016 SMILE CVM Intramural Grant, “Effects of chronic heart failure on aging: An integrative and therapeutic approach.” Total costs: \$38,000. PI, D.C. Poole, Co-I, T.I. Musch.
- 2013-2016 Innovative Cancer Award, Terry Johnson Cancer Foundation, “Effects of dietary nitrate supplementation on tumor oxygenation and microcirculation.” Total costs: \$9,500. PI: D.C. Poole, Co-I: T.I. Musch.
- 2011-2015 National Institutes of Health, HL-108328 “Mechanisms of muscle microcirculatory dysfunction in heart failure” Total costs: \$365,546. PI: D.C. Poole, Co-I: T.I. Musch.
- 2010-2012 American Heart Association. “Role of nitric oxide synthase isoforms in microcirculatory dysfunction of heart failure.” Total costs: \$142,000, PI: D.C. Poole, Co-I: T.I. Musch. (10 GRANT 4350011)
- 2008-2010 SMILE CVM Intramural Grant, “Control of skeletal muscle blood flow by selective NOS isoforms: effects of exercise training and heart failure.” Total costs: \$33,628. PI, D.C. Poole, Co-I, T.I. Musch.
- 2008-2010 Cytokinetics Inc., “Effects of a calcium sensitizing agent on muscle performance and gas exchange.” Total Costs: \$78,000. PI, T.I. Musch, Co-I, D.C. Poole.
- 2004-2006 American Heart Association, Heartland Affiliate, “Mechanisms of microcirculatory dysfunction in heart failure.” Direct costs; \$143,000. PI, D.C. Poole, Co-I, T.I. Musch.
- 2001-2004 National Institutes of Health, PA-00-056. “Aging, chronic disease and skeletal muscle perfusion.” Total costs: \$436,500. PI, T.I. Musch.
- 1998-2004 National Institutes of Health, RO1. “Muscle capillary geometry, flow and oxygen transfer” PI, D.C. Poole Total costs: \$1,156,557.
- 1995-2000 National Institutes of Health, Program Project, "Physiological Consequences of Pulmonary Disease". \$8,041,479. Total costs; Project 3, D.C. Poole \$1,579,333.
- 2000-2002 National Institutes of Health, R15. “The NADPH oxidase and neutrophil recruitment in muscle.” PI, C.R. Ross. Total costs: \$145,500.
- 2000-2002 American heart Association, Heartland Affiliate, “Kinetics of muscle oxygen exchange in chronic heart failure.” Direct costs; \$80,000. PI, T.I. Musch.
- 1994-1999 National Institutes of Health, FIRST Award. "Microstructure and Function in Diaphragm". Total costs; \$411,720.

- 1994-1997 Tobacco-Related Diseases Research Program, Research Award. "Microcirculatory consequences of emphysema in diaphragm". Total costs; \$275,808. (Declined).
- 1991-1994 Tobacco-Related Diseases Research Program, New Investigator Award. "Diaphragm Structural and Metabolic Changes in Emphysema". Total costs; \$225,000
- 1991-1993 American Heart Association, Missouri Affiliate. "Microcirculatory Transport Capacity in Skeletal Muscle of Diabetic Rats". \$50,000 PI, W.L. Sexton
- 1991 Microcirculatory Society: Travel Award. \$1,200.
- 1988-1991 National Institutes of Health, Individual National Research Service Award. "Plasticity of Capillary Length Density and Anisotropy". Total costs; \$109,000
- 1987-1988 California Lung Association Post-Doctoral Fellowship. "Effect of Endurance Training on Capillary Length Density and Anisotropy of Rat Skeletal Muscle". \$20,000

B. Integrated Systems Physiology

- 2006-2007 American Association of Equine Practitioners. "Can conjugated estrogens and aminocaproic acid reduce EIPH? \$75,000. PI, H.H. Erickson, Co-I's T.S. Epp, D.C. Poole.
- 2005-2006 Lonza Pharmaceuticals. "Effects of L-Carnitine supplementation on muscle damage in racing Greyhounds." Total costs; \$62,214.
- 2005-2006 Kansas Racing and Gaming Commission. "The role of pulmonary leucocytes in reducing EIPH with concentrated equine serum – phase II. \$11,981. PI, T.S. Epp, Co-I's H.H. Erickson, D.C. Poole.
- 2005-2006 Kansas Racing and Gaming Commission. "Does left ventricular mass, heart size and the presence of valvular regurgitation affect performance in racing Greyhounds?" Total costs: \$60,158. PI, T.S. Epp, Co-I's. D.C. Poole, H.H. Erickson.
- 2003-2007 National Science Foundation. "An infrastructure veterinary telemedicine – Proactive herd management for disease prevention from farm to market. Total costs, \$900,000. PI's D. Andresen, S. Warren, H.H. Erickson, T.S. Epp, M. Spire, J. Sargeant, D.C. Poole.
- 2003-2004 Kansas racing and Gaming Commission, "The incidence and severity of exercise induced pulmonary hemorrhage in racing greyhounds." Total costs, \$21,522. Co-I's, P. McDonough, H.H. Erickson, T.I. Hildreth.
- 2003-2004 Kansas racing and Gaming Commission, "Determination of the mechanistic basis for the reduction of EIPH with concentrated equine serum." Total costs, \$13,549. Co-I's, T.I. Hildreth, P. McDonough, H.H. Erickson.

- 2000-2002 Sera Inc., "A preliminary treadmill exercise study to determine the efficacy of serum equine IgG as a prevention and treatment for EIPH in athletic horses. Total costs; \$48,086. PI, H.H. Erickson, Co-I's, C.A. Kindig, B.R. Rush, P. McDonough.
- 2002-2003 National Science Foundation. Veterinary Telemedicine: Proactive herd health management for disease prevention from farm to market. Total costs; \$145,566. PI's D. Andresen, H.H. Erickson, S. Warren, J. Sargeant, D.C. Poole.
- 2001-2002 KSUCVM, "Evaluation of two herbal formulations used in athletic horses to prevent or treat EIPH. \$5,000. P.I. H.H. Erickson, Co-I's T. S. Hildreth, J.H. Cox, P. McDonough.
- 1999-2002 CNS, Inc. Evaluation of a nasal dilator in horses. Phases I, II, and III. Total costs; \$225,172 PI, H.H. Erickson, Co-I, C.A. Kindig.
- 1999-2000 American Quarter Horse Association, "Does nitric oxide reduce pulmonary vascular pressures and EIPH? Total costs; \$35,732 PI, H.H. Erickson, Co-I, C.A. Kindig.
- 1999-2000 Kansas Racing Commission, "Does nitric oxide reduce pulmonary vascular pressures and EIPH? Total costs; \$5,556 PI, H.H. Erickson.
- 1992-1993 White Mountain Research Station, Director's Fellowship. "Interaction of emphysema and inspiratory hypoxia on diaphragm structure". \$3,000
- 1990-1995 National Institutes of Health, Program Project, "Physiological Consequences of Pulmonary Disease". \$6,249,765 PI, P.D. Wagner. PI: Project 3, D.C. Poole \$1,326,000.
- 1987 MacArthur Foundation Network for health promoting and damaging behaviours, UCLA Node. "Energy Expenditure at Rest and During Exercise in Anorexia Nervosa". \$15,000
- 1984, 1986 University of California, Los Angeles, Graduate Division. Doctoral Research Awards. "The Parameters of the Power-Duration Relationships: Respiratory and Metabolic Correlates." \$1,500

Research Grant Awards, Submitted/To be submitted

National Institutes of Health, RO1. "Effects of chronic heart failure on aging: An integrative and therapeutic approach" Total costs: \$1,867,532, PIs: D.C. Poole, T.I. Musch, M.J. Kenney, P. Fong.

Student Awards and Grants:

- 1999-2000 ACSM. "Muscle microcirculatory plasticity and oxygen delivery." \$4,891. PI, C.A. Kindig.
- 2000-2001 ACSM, Central States Chapter. "Dynamics of muscle microvascular oxygen pressure at the onset of contractions." \$500. P.I. B.J. Behnke.

- 2001-2004 NRSA (Post-doctoral). “Muscle fiber type, oxidative capacity and oxygen exchange.” \$120,000. PI, P. McDonough (Priority score 190, 10th percentile)
- 2002-2005 NRSA (Post-doctoral). “Dynamics of oxygen uptake in contracting single myocytes.” \$120,000. PI, C.A. Kindig (Priority score 121, <2nd percentile)
- 2001-2005 NRSA (Pre-doctoral). “Oxygen transport and exchange.” \$95,000. P.I., D. Padilla (Priority score 178, 18th percentile)
- 2002 ACSM, Central States Chapter. “Effects of heart failure on microvascular oxygen dynamics” \$500. P.I. Emily R. Diederich
- 2002-2004 NRSA (Pre-doctoral). “Dynamics of muscle microvascular PO₂ across the rest-exercise transition.” \$55,000. P.I., B. Behnke (Priority score 158, 9th percentile)
- 2002 ACSM, Central States Chapter. “Effects of systemic hypotension on muscle microvascular oxygen exchange.” K.D. Ross. Best student poster.
- 2002 APS Student Research Award. “Impact of type I diabetes on the muscle microvascular PO₂.” Experimental Biology, New Orleans. \$550, P.I. B. Behnke.
- 2003 Phi Zeta, D. J. Padilla “Control of ventilation and arterial CO₂ pressure following maximal exercise in the Thoroughbred horse.” 1st Place Poster Presentation.
- 2003 Phi Zeta, T. S. Hildreth “The effectiveness of immunotherapy in treating exercise-induced pul. hemorrhage.” 1stPlace Clinical Science and Research Presentations.
- 2003 Kansas State Student research Symposium, T.S. Hildreth “Immunotherapy and exercise-induced pulmonary hemorrhage. 3rd Place Research Presentations.
- 2004 American College of Sports Medicine, New Investigator Award, C.A. Kindig.
- 2004 ACSM, Central States Chapter. “Effects of Type II diabetes on muscle microvascular oxygen exchange.” \$500. P.I. D.J. Padilla.
- 2005 Leo and Gloria Whitehair Award. Funding for Veterinary Chiropractic Certification. \$350. T.S. Epp.
- 2005 ACSM, Central States Chapter. “Effects of altered nitric oxide availability on rat muscle microvascular oxygenation during contractions.” \$500. P.I. L.F. Ferreira.
- 2008 Experimental Biology/Microcirculatory Society, San Diego, 2008. New Investigators Symposium. “The effects of aging on microcirculatory oxygen delivery (QO₂) in contracting rat spinotrapezius muscle.” PI, S.W. Copp.
- 2008-2012 CAPES-Brazil Fulbright Pre-doctoral Fellowship, Daniel M. Hirai, \$100,000.
- 2009 Experimental Biology/Microcirculatory Society, New Orleans, 2009. Zweifach Travel Award. S.W. Copp.
- 2009 American Physiological Society. New Investigator Award. B.J. Behnke.

- 2009 American College of Sports Medicine. New Investigator Award. B.J. Behnke.
- 2010 American College of Sports Medicine Foundation – Doctoral Student Research Grant. \$5,000. D.M. Hirai.
- 2010 Kansas State University Graduate Award for Academics (K-State Alumni Association) S.W. Copp.
- 2010 Notable Scholarly Graduate Student Achievements, *K-State's Graduate Student Council 1: 1, 2010*, Steven W. Copp.
- 2010 Notable Scholarly Graduate Student Achievements, *K-State's Graduate Student Council 1: 1, 2010*, Daniel M. Hirai.
- 2011 August Krogh Young Investigator Award, Microcirculation Society, \$1,000, Steven W. Copp.
- 2011 Kansas State Graduate Student Council Travel Award for ACSM in Denver, \$500, Daniel M. Hirai
- 2011 Microcirculation Society Travel Award for Microcirculation/Experimental Biology in Washington, D.C., \$1,000, Daniel M. Hirai.
- 2011 Notable Scholarly Graduate Student Achievements, *K-State's Graduate Student Council 1: 1, 2011*, Steven W. Copp.
- 2011 Notable Scholarly Graduate Student Achievements, *K-State's Graduate Student Council 2: 1, 2011*, Daniel M. Hirai.
- 2011 Notable Scholarly Graduate Student Achievements, *K-State's Graduate Student Council 2: 1, 2011*, Scott K. Ferguson.
- 2011 American Physiological Society, Cardiovascular Section, New Investigator Award, Brad J. Behnke.
- 2011 American College of Sports Medicine Foundation – Doctoral Student Research Grant. \$5,000. S.W. Copp.
- 2011 American College of Sports Medicine Foundation, Steven M. Horvath Travel Award. D.M. Hirai.
- 2011-2013 American Heart Association Pre-doctoral Research Fellowship, Steven W. Copp, \$52,000.
- 2011-2012 K-SURF Pre-doctoral Fellowship, Steven W. Copp, \$17,500.
- 2012 Leo and Gloria Whitehair Research Award in Veterinary Medicine, Daniel M. Hirai
- 2012 Anatomy and Physiology Doctoral Travel Award, Steven W. Copp, \$1,000.

- 2012 Anatomy and Physiology Doctoral Travel Award, Daniel M. Hirai, \$1,000.
- 2012 American Heart Association, Undergraduate Research Fellowship, Gabrielle Sims, "Chronic pentoxifylline administration in the treatment of chronic heart failure." \$4,000.
- 2012 Graduate Student Council Travel Awards to attend Integrative Biology of Exercise VI meeting in Westminster, Colorado. Scott K. Ferguson, Daniel M. Hirai, Steven W. Copp, \$600.
- 2013 Provost Award for Academic Excellence to attend American College of Sports Medicine annual meeting. Scott K. Ferguson, Gabi Sims, Steven W. Copp, \$2,800.
- 2013 Cornelius Scholarship for research excellence in Anatomy and Physiology, Steven W. Copp.
- 2013 Best Masters Student in Kinesiology, Scott K. Ferguson.
- 2013 Best Doctoral Student in Kinesiology, Steven W. Copp.
- 2013 Graduate Student Council Travel Awards to attend American College of Sports Medicine national meeting in Indianapolis. Clark T. Holdsworth, Scott K. Ferguson, Steven W. Copp, \$900.
- 2014 Caroline tum Suden/Francis A. Hellebrandt Professional Opportunity Award to attend Experimental Biology in San Diego, Scott K. Ferguson, \$500.
- 2014 Graduate Student Council Travel Awards to attend American College of Sports Medicine national meeting in Indianapolis. Clark T. Holdsworth, Scott K. Ferguson, \$1,000.
- 2014 A.S.R. Ganta Graduate Student Award: Scott K. Ferguson.
- 2014 American Physiological Society STRIDE Undergraduate Research Fellowship, Angela Glean, \$5,600.
- 2014 Eva Lyman Scholarship in Kinesiology, Angela A. Glean.
- 2014 K-State Research Forum, Best Poster in the Biological Sciences by a Doctoral Student, "*Role of rat vascular KATP channels in muscle vascular control at rest and during exercise.*" Clark T. Holdsworth
- 2014 K-State Research Forum, Best Poster in the Biological Sciences by an Undergraduate Student "*Impact of nitrate supplementation via beetroot juice on capillary hemodynamics in skeletal muscle of rats in chronic heart failure.*" Alex J. Fees
- 2014 University Distinguished Professors Graduate Student Award, Clark T. Holdsworth
- 2014 American Kinesiology Association Undergraduate Scholar, Angela Glean.

- 2014 Dean's Doctoral Dissertation Research Award, College of Human Ecology, Scott K. Ferguson.
- 2014 OURCI Research Award from the Office of Undergraduate Research & Creative Inquiry. \$1,000. Alex Fees.
- 2015 American Physiological Society Exercise and Environmental Physiology Section, Nike Inc. Predoctoral Award, Scott K. Ferguson.
- 2015 American Physiological Society Exercise and Environmental Physiology Section, Predoctoral Award, Clark T. Holdsworth.
- 2015 American Physiological Society Exercise and Environmental Physiology Section, CAN-TROL Environmental Systems Predoctoral Award, Jennifer L. Wright.
- 2015 American Physiological Society Exercise and Environmental Physiology Section, Partnership for Clean Competition Beginning Investigator Award, Angela A. Glean.
- 2015 CVM Graduate Student Travel Award to Experimental Biology in Boston, 2015. \$1,250, Jennifer L. Wright.
- 2015 Dr. Albert L. Burroughs Memorial Award, \$1,500, Jennifer L. Wright.
- 2015 Dr. Charles E. Cornelius Award, \$350, Jennifer L. Wright.
- 2015 Dr. G. Roger Spencer Award for dual Masters and DVM candidates, \$1,000, Jennifer L. Wright.
- 2015 Provost Award for Academic Excellence to attend American College of Sports Medicine annual meeting. Scott K. Ferguson, Clark Holdsworth, Jenni Wright, Alex Fees, Trenton Colburn, \$2,900.
- 2015 Kansas State University American Association for the Advancement of Science CASE (Catalyzing Advocacy for Science and Engineering) program representative to Washington, April 12-15, Clark T. Holdsworth.
- 2015 Kansas Research Foundation – All University Biological Sciences First Place Poster: Trenton Colburn, \$500.
- 2015 Kansas State University, Golden Key Honour Society Outstanding Graduate Teaching Assistant (Top 1%), Scott K. Ferguson.
- 2015 CVM Graduate Student Awards Committee research travel award: Exeter University U.K. Scott K. Ferguson
- 2015 CHE Undergraduate Research Presentation Award. *“Impact of nitrate supplementation via beetroot juice on capillary hemodynamics in skeletal muscle of rats in chronic heart failure.”* Alex J. Fees
- 2016 Timothy Donohue Distinguished Doctoral Student Award, Trenton Colburn, \$5,000.

- 2016 OURCI Travel Research Award from the Office of Undergraduate Research & Creative Inquiry. \$1,000. Alex Fees.
- 2016 All University Best Biological Science Poster: “*Effect of sodium nitrite on local control of contracting skeletal muscle microvascular oxygen pressure in healthy rats.*” Trenton Colburn, \$500.
- 2016 APS/EEP Gatorade Sport Science Institute Post-doctoral Research Award, Dr. Steven W. Copp. Presented at Experimental Biology, San Diego.
- 2016 APS/EEP National Space Biomedical Research Institute’s Gravitational Physiology Post-doctoral Research Award, Dr. Scott K. Ferguson. Presented at Experimental Biology, San Diego.
- 2016 Best Masters Student in Kinesiology, Trenton Colburn, \$650.
- 2016 Equine Graduate Scholarship, Jenni K. Wright, \$70,000.

TEACHING PORTFOLIO (DCP sole instructor unless otherwise indicated)

KIN 335: Physiology of Exercise (1996- Team Taught, 4 Credit Hours – Fall and Spring)

Students learn about the human body responses to exercise. Emphasis is placed on understanding the structure-function relationships of the respiratory, cardiovascular, and muscular systems and how their function is integrated to support the dynamics of muscular contraction. Limitations to exercise performance are examined in health and disease and the adaptability of the human body to physiological (i.e., exercise training) and environmental (e.g., hypoxia) stressors.

KIN 336: Physiology of Exercise (1996- 2 hrs lab per week - GTA supervision – Fall and Spring)

A laboratory course to supplement the material of KIN 335.

KIN 605 ZB: Cardiorespiratory/Comparative Physiology in Health and Disease (2014- 3 Credit Hours – Fall, Spring, Summer)

This course seeks to fulfill the following objectives: (1) To provide the student with an awareness and mechanistic understanding of the effects of physical activity on humans and animals and the concept of homeostasis. (2) Foster an understanding of the integrative nature of kinesiology/physiology by considering the relationships among different systems and their response to stress in humans and animal species in health and disease. Focus is brought to bear in particular on the pulmonary, cardiovascular and muscle systems. Chronic and acute adaptations to special environments and physical stress are considered and the students are asked to consider how the different systems are controlled in health and disease. This course is recommended for pre-med students, biology and physiology majors, aspiring scientists in physiology and/or medicine and those interested in a career in health and human services.

KIN 635: Nutrition and Exercise – K-State 8 Course (1996- 3 Credit Hours – Fall)

The interrelationships between diet, nutrition and exercise. Topics covered include: systems control, ventilation and gas exchange physiology, cellular energetics, metabolic control, nutritional supplements, physical fitness/oxygen transport, weight control, nutrient and substrate metabolism during exercise, and athletic performance.

AP 747: Veterinary Physiology - Integrative systems physiology (Respiratory Physiology - Team Taught 1998- Course Coordinator 2012-2014; 6 Credit Hours, Spring)

Function of the cardiovascular, endocrine, respiratory, renal, digestive, and reproductive systems of domestic animals with emphasis on physiologic control mechanisms, interrelationships of body systems, and criteria for evaluating animal health.

KIN 796/824: Critical reading in physiology: Cardiorespiratory – microcirculation (1995- Spring)

This course is designed to promote critical reading of the literature, particularly with respect to the understanding of the physiology of exercise. Students will take an active role in participation at all levels which includes presenting papers, joining in lively debate and discussion regarding all aspects of science and scientific philosophy. Students should have a solid grounding in basic and applied respiratory/ cardiovascular exercise physiology.

KIN 800 ZA: Comparative Physiology of Oxygen Transport (2014- 3 Credit Hours – Fall)

This course uses the human as a template from which to understand how different animal species have adapted to take up oxygen from their environment, transport it to the tissues and contracting muscles and utilize it to produce energy and movement. Across the animal kingdom the structural and functional adaptation that facilitate superlative performances in flight, running and swimming will be examined. To illuminate different adaptive strategies, disparate environments (e.g., altitude, underwater), and acute and chronic adaptations in health, disease and aging will be studied. Information will be delivered through lectures and directed readings which will be provided. This course is especially relevant to students with an interest in health and science-related careers especially veterinary and human medicine.

Additional Responsibilities: Guest/Periodic Lecturer: KIN 310; KIN 801; AP 740

Elected Offices/Positions: **President, American College of Sports Medicine, Central States Region, 2001-2002**
 Touring Fellow, American College of Sports Medicine, Texas Chapter, 2003

National Societies: American College of Sports Medicine (Fellow)
 American Physiological Society
 International Symposium on Oxygen Transport to Tissue
 Microcirculatory Society
 American Heart Association

Teaching Experience:

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| 1999-present | Kansas State University, Department of Anatomy and Physiology. Respiratory Physiology. Veterinary Medicine. Lecture and Laboratory. |
| 1995-present | Kansas State University, Department of Kinesiology. Cardiorespiratory Exercise Physiology, Cellular Energetics, Advanced Microcirculation, Pulmonary Gas Exchange. Graduate and Undergraduate. Lecture and Laboratory. |
| 1987-1994 | University of California, San Diego, Department of Medicine. "Respiratory Physiology". Class and Laboratory. |
| 1991 | University of California, San Diego, Department of Biology. "Organ Physiology". Lecture. |

- 1986-1987 University of California, Los Angeles, Department of Kinesiology. "Cardiorespiratory Physiology". Lecture.
- 1986-1987 University of California, Los Angeles, Department of Physiology. "Control of Breathing". Laboratory.
- 1986-1987 University of California, Los Angeles, Department of Kinesiology. "Energetics and Human Performance". Lecture.
- 1984-1985 University of California, Los Angeles, Department of Anesthesiology, Program of Nurse Anesthesia. "Respiratory Physiology and Anatomy for Nurse Anesthetists". Laboratory.
- 1981-1985 University of California, Los Angeles, Department of Kinesiology, Teaching Assistant. "Respiratory and Environmental Physiology". Laboratory.
- 1983-1985 University of California, Los Angeles, Department of Kinesiology, Graduate Division. "Selected Topics in Respiration". Lecture.
- 1984 University of California, Los Angeles, Department of anesthesiology, Program of Nurse Anesthesia. "Basic Statistical Principles and Their Application". Lecture.

Teaching Honors/Awards: **Myers-Alford Outstanding Teaching Award, College of Human Ecology, 2016**
Kansas State Provost's Academic Excellence Award, 2015
KSU College of Human Ecology, Faculty Research Excellence Award, 2013
Merial Award for Excellence in Veterinary Medical Teaching (2012/2013)
Kansas State Provost's Academic Excellence Award, 2013
American Physiological Society, Star Reviewer, 2012 (top 1 of 3,000)
Pfizer Award for Research Excellence, College of Veterinary Medicine, (2010)
Microcirculatory Society, Weiderhelm Award, Most Cited Paper, Experimental Biology, New Orleans (2009).
American Physiology Society Renowned Professor recognition: *Advances Physiol. Educ.* 31:308-311, 2007.
Merial Award for Excellence in Veterinary Medical Teaching (2006)
Lambda Chi Alpha, Exceptional Faculty Recognition Award (2006)
Commerce Bank Award for Distinguished Undergraduate Teaching (2002)
Phi Zeta Honorary Membership (2000)
Mortar Board Senior Honor Society (1999 and 2005)
Golden Key National Honor Society (1998)
Sigma Kappa, Exceptional Faculty Recognition Award (1997)
Medicine and Science in Sports and Exercise, Top Reviewer (1995)

Editorial Positions: **Editor:** *European Journal of Applied Physiology* (2011-)
Associate Editor: *Journal of Applied Physiology* (2011-)

North American Editor: Equine and Comparative Physiology (2002-2005)
Boardmember: Medicine and Science in Sports and Exercise (1996-2001)
Boardmember: Journal of Applied Physiology (1995-)
Boardmember: European Journal of Applied Physiology (2003-2010)
Boardmember: Respiration Physiology and Neurobiology (2006-)
Boardmember: Journal of Exercise Science and Fitness (2009-)
Boardmember: Microcirculation (2010-)
Boardmember: Frontiers in Exercise Physiology (2011-)
Boardmember: European Journal of Sports Science (2011-)
Boardmember: American Journal of Physiology – Heart (2011-)
Boardmember: International Journal of Anatomy and Applied Physiology (2015-)

Grant Review Boards:

Canadian INSERM and NSERC grant review boards 1995-
Canadian Killiam Awards Review Group, 1996-.
American Heart Association, Kansas Affiliate, 1997-98
Department of Defence, PPCR Study Section, 1999.
National Institutes of Health, Heart, Lung, Blood Institute, reviewers reserve, 1998-.
National Institutes of Health, Respiratory and Applied Physiology, 2000.
National Institutes of Health, Special Emphasis Panel, 2001.
Bank of America, Jeffress Memorial Trust Research Grant reviewer, 2002-.
Pilot and Feasibility Study Program, Mouse Metabolic Phenotyping Center, Vanderbilt, Dr. Richard Roberts: Optical Imaging of Capillary Blood Flow in Living Mice, 2003.
The Nuffield Foundation, United Kingdom. Science, Engineering and Mathematics, 2003/2004
National Institutes of Health, General Clinical Research Center review panel, Mayo Clinic, Rochester, 2004
California Tobacco Related Diseases Research Program, *ad hoc*, San Francisco, California, 2005, 2006
K-State FDA and USRG grant review board, 2005, 2006, 2007
Fonds Wetenschappelijk Onderzoek, Belgian Post-doctoral Fellowship – Dr. Katrien Koppo, 2006, 2007, 2008
Fonds Wetenschappelijk Onderzoek, Belgian Post-doctoral Fellowship – Dr. Wim Derave, 2007
Wellcome Trust, United Kingdom, 2007.
Natural Sciences and Engineering Research Council of Canada (NSERC) Reviewers Reserve Panel, 2007-
National Institutes of Health, Hypertension and Microcirculation Study Section, 2007-2009
National Institutes of Health, Hypertension and Microcirculation Study Section, Special Emphasis Panel, October, 2007.
National Institutes of Health, HM Study Section, Special Review panel: Circulation Regulation and Pathophysiology, February 2008.
National Institutes of Health, HM Study Section, AED Special Review panel (ZRG1 CVS-F (90) S: Circulation Regulation and Pathophysiology, March 2008.

K-Inbre Major Starter Grant Application. Paige C. Geiger “Protective Role of Heat Shock proteins in Insulin resistance.” June, 2008.
 Wellcome Trust, United Kingdom, 2008. Dr. Anni Vanhatalo, Research Fellow Application.
 Biotechnology and Biological Sciences Research Council Research Grant, U.K. Dr. Harry B. Rossiter, 2010.
 National Institutes of Health, CSR National Registry of Volunteer Reviewers, 2010-
 Romanian Research Council, Life Sciences Expert Review Panel, 2011-
 National Institutes of Health CSR Special Emphasis Panel, Cardiovascular and Respiratory Sciences IRG, ZRG1 CVRS-B (90), 2012
 National Institutes of Health CSR Special Emphasis Panel, Cardiovascular and Respiratory Sciences, ZRG1 CVRS-M (90), 2013
 National Institutes of Health CSR, Cardiovascular and Respiratory Sciences, 10 ZRG1 CVRS-Q (90), 2013, Chair
 National Institutes of Health CSR, Cardiovascular and Respiratory Sciences, ZRG1 CVRS-E80 A, 2013
 National Institutes of Health CSR, Cardiovascular and Respiratory Sciences, ZRG1 CVRS-Q(80), 2014, Chair
 Pi Beta Phi Distinguished Faculty, 2014
 National Institutes of Health CSR, Cardiovascular and Respiratory Sciences, ZRG1 CVRS-K(80), 2014.
 NASA Research and Technology Development to Support Crew Health and Performance in Space Exploration Missions. NASA/NSBRI 2014-2015 Crew Health Step-2 Review Study Section, 2015.
 NSF Physiological Mechanisms & Biomech. Study Section, October 5, 2015.
 Congressionally Directed Medical Research Programs - Cardiovascular Health. Focused Program Award of the Dept. of Defense. December, 2015.
 Canadian INSERM grant review board 2015-16

Journals Reviewed:

Science; American Journal of Physiology
 Journal of Applied Physiology
 Journal of Physiology (London)
 Medicine and Science in Sports and Exercise
 Journal of Clinical Investigation
 International Journal of Sports Medicine
 American Journal of Clinical Nutrition
 International Journal of Obesity
 Journal of Experimental Physiology
 European Journal of Applied Physiology
 Journal of Clinical Investigation
 The Veterinary Journal, Microcirculation
 Microvascular Research
 American Journal of Respiratory and Critical Care Medicine
 FASEB J.
 Molecular and Cellular Endocrinology
 Science

Committees (National): ACSM Pronouncements Committee 1996-1999.
ACSM Research Awards Committee 2002-6
American Physiological Society Research Awards Committee 2002-6
American Physiological Society Exercise Study Design Workshop 2003-4
Microcirculatory Society Awards Committee 2008-2011
EEP Programming Committee (Chair, 2014-)
ACSM and World Congress on the Basic Science of Exercise Fatigue, 2015,
Organizing Committee
APS Exercise and Environmental Physiology Program Chair, 2014-

Committees (University/College): Graduate Program Self Study, 1999-2005
Research Committee, Member and Chair, College of Veterinary
Medicine, 2008-2012

Committees (Departmental): Faculty Search Committee, Dr. Thomas J. Barstow, 1996.
Faculty Search Committee, Dr. Richard M. McAllister, 1996.
Faculty Search Committee, Dr. Craig A. Harms, 1997.
Faculty Search Committee, Dr. Nancy Gyurcik, 2000.
Faculty Search Committee, Dr. Paul Estabrooks, 2000.
Kinesiology Graduate Comm. 1995-
Anatomy and Physiology Research Review Panel, 2002.
Scholarship and Awards Committee (Chair), 2007-
Awards Banquet Committee (Chair), 2007-
Merit Award Committee (Chair), 2010.
Anatomy and Physiology, Graduate Executive Committee, 2011-
Faculty Review Committee (Dr. David Dzewaltowski reappointment), 2012.
Anatomy and Physiology, Departmental Advisory Committee, 2013-
Associate Dean for Research, College of veterinary Medicine

Referee for Tenure and/or Promotion: Susan A. Ward, Professor, UCLA
Russell S. Richardson, Associate Professor, UCSD
Ronald A. Herb, Associate Professor, N. Arizona Univ.
Andrew M. Jones, Senior Lecturer, Manchester Metropolitan Univ.
William L. Sexton, Professor, Kirksville College of Osteopathic Med.
I. Mark Olfert, Project Scientist, UCSD
John David Symons, Assist. Prof. Univ. of Utah (2nd / 3rd year revs.)
Richard M. McAllister, Associate Professor, Kansas State University
David Dzewaltowski, Professor, Kansas State University
Thomas J. Barstow, Professor, Kansas State University
Craig A. Harms, Associate Professor, Kansas State University
Brian J. Whipp, Professor, University of Leeds, U.K.
John David Symons, Associate Prof. University of Utah
Andrew M. Jones, Professor, Manchester Metropolitan Univ.
Mark Olfert, Assistant Professor, UCSD
Andrew M. Jones, Professor, University of Exeter
Kenneth H. McKeever, Professor, Rutgers
Ramiro Isaza, Associate Professor, University of Florida
Bruno Grassi, Professor, University of Udine, Italy

James C. Martin, Associate Professor, University of Utah
 John P. Mattson, Associate Professor, Gustavus Adolphus University
 Kenneth H. McKeever, Professor, Rutgers
 Brad J. Behnke, Assistant Professor, Florida State University
 Donald H. Paterson, Distinguished University Professor, UWO
 Michael C. Hogan, Professor, University of California, San Diego
 Jefferson C. Frisbee, Professor, West Virginia University
 Paige C. Geiger, Associate Professor, Dept. Molecular & Integrative
 Physiology, University of Kansas, School of Medicine
 Ellen C. Breen, Research Scientist, UCSD
 John R. Halliwill, Professor, University of Oregon, 2011.
 Brendon J. Gurd, Assist. Professor, Queens University, Canada, 2011
 Yutaka Kano, Professor, University of Electro-Communications,
 Chofu, Japan, 2012
 Harry B. Rossiter, Associate Professor, Harbor-UCLA, 2012
 Mark Burnley, Senior Lecturer, University of Kent, 2012
 Ingrid Langsetmo, Assistant Professor, Texas A&M, 2012
 Jason David Allen, Associate Professor, Duke University, 2012
 John David Symons, Professor. University of Utah, 2012
 Christos S. Katsanos, Associate Prof. Arizona State University, 2013
 Joslyn Ahlgren, Senior Lecturer, University of Florida, 2013
 Lisa A. Lesniewski, Assistant Professor. University of Utah,
 3rd year reappointment, 2012
 Anthony J. Donato, Associate Professor with tenure. University of
 Utah, 2014
 Lisa A. Lesniewski, Assistant Professor. University of Utah,
 5th year reappointment, 2014
 Russell S. Richardson, VA Rehabilitation Research and Development
 (RR&D) Senior Research Career Scientist Award, 2014
 Russell T. Hepple, Professor, McGill University, Canada, 2014.
 Mark Olfert, Associate Professor, University of West Virginia, 2014.
 Mikel Egana, Associate Professor, Trinity College, Dept. of Medicine,
 University of Dublin, 2015.
 Scott L. Davis, Associate Professor, Department of Applied
 Physiology & Wellness, Southern Methodist University, Dallas, 2015
 Ken McKeever, Distinguished Professor, Rutgers, 2015.

Media Releases	1/26/2010	“Antioxidants aren’t always beneficial to your health”
	3/23/2011	“Anderson has strived for years to make Manhattan more livable”
	8/02/2011	AJP Podcast “The rate of oxygen loss from mesenteric arterioles is not unusually high” R.N. Pittman, W.G. Weir, K.H. Keehan, D.C. Poole
	1/10/2012	AJP Podcast “Muscle oxygen transport and utilization in heart failure: Implications for exercise (in)tolerance.” D.C. Poole, I. Zucker, K.H. Keehan, P.D. Wagner.
	4/2012	Perspectives Update, Kansas State University “For better health: Rats, beetroot juice and fish oil.” Steven W. Copp.
	8/2012	Cooking Light Magazine “Antioxidants Reconsidered” p. 51. Expert quote.

11/14/2012	AJP Podcast “Sildenafil improves oxygen uptake kinetics in heart failure” D.C. Poole, J.A. Neder, K.H. Keehan, D.A. Kass.
3/1/13	DVM Newsmagazine “Clearing the airway: Nasal strips and EIPH” E. Kane; expert opinion D.C. Poole.
4/23/14	AJP Podcast “Aerobic exercise acutely prevents the endothelial dysfunction induced by mental stress.” A.C.L. Nobrega, N. Kanagy, K.H. Keehan, D.C. Poole
4/29/2014	Kansas State Collegian. “Despite study local experts say active lifestyle still ideal.” Expert opinion.
5/21/2014	Kansas State News and Editorial Services. “Researchers find equine nasal strip reduces lung damage, may improve performance.” H.H. Erickson, D.C. Poole.
5/22/2014	Horse Talk, New Zealand. “Do nasal strips help horses?” Expert opinion. D.C. Poole.
5/25/2014	ESPN. “Straight from the horse’s nose. Does California Chrome’s nasal strip actually work?” Expert opinion.
10/23/2014	Kansas News Channel 27. “Beetroot juice for athletes and heart failure patients.” Story and interview.

Specific Airings of “Beetroot juice for athletes and heart failure patients”:

Report:

<http://mms.tveyes.com/NetReport.aspx?ReportHash=a19bd0250db0b431d950a57e0e8f652a>
UPDATE

8/10/15:

<http://mms.tveyes.com/NetReport.aspx?ReportHash=ed38f0df4ed4deef98c9748e5d00c89e>

Pathfire Downloads:

Stories Aired:

- KSNT **NBC** (10.24.14)
 - o Topeka, KS - 4 a.m., 6 a.m.
- KTKA **ABC** (10.24.14)
 - o Topeka, KS - 6 a.m.
- KSAT **ABC** (10.24.14)
 - o San Antonio, TX - 5 a.m.
- KNOP **NBC** (10.30.14)
 - o North Platte, NE - 6 a.m.
- WNYT **NBC** (11.11.14)
 - o Albany, NY - 5p.m.
- KLRT **FOX** (11.11.14)
 - o Little Rock, AR - 5 p.m.
- KVRR **FOX** (11.11.14)
 - o Fargo, ND - 9 p.m.

COVERAGE UPDATE: 8.10.15 - Additional value: \$4,424

- WBKPDT **CW** (8.03.15)
 - o Marquette, MI - 7 a.m.
- WNLY (8.03.15)
 - o New York, NY - 7 a.m.

- WRAZ---RAL FOX (8.3.15)
- Raleigh, NC – 6 a.m.

Invited Presentations (selected)

- Harbor-UCLA, 1985.** Department of Medicine. "Interrelationships between metabolism and pulmonary gas exchange kinetics."
- Harbor-UCLA, 1986.** Department of Medicine. "Control of breathing during isometric exercise."
- UCLA, 1986.** Department of Anaesthesiology. "Metabolic and gas exchange limitors of high intensity exercise."
- University of Western Ontario, Canada, 1988.** Department of Medical Biophysics. "Plasticity of capillary geometry after exercise training."
- University of Arizona, 1991.** Department of Cardiothoracic Surgery. "Microvascular structure as a determinant of maximal oxygen transfer capacity."
- University of Arizona, 1991.** Dept. of Physiology. "Cap.-to-fiber geometrical changes during systole."
- Kirkville College of Osteopathic Medicine, 1992.** Department of Physiology. "Capillary and fiber geometry in the heart during systole and diastole: Implications for oxygen transfer."
- University of Texas, Southwestern Medical Center, 1992.** "Diaphragm microstructure: Implications for function."
- Freie Universitat, Berlin, Germany, 1992.** Department of Anaesthesiology. "Tissue Gas Exchange: structural plasticity and hypoxemia."
- University of Wisconsin at Madison, Wisconsin, 1993.** Department of Kinesiology. "Structural and functional plasticity in the pathway for oxygen."
- Kansas State University, Manhattan, 1994.** Departments of Kinesiology and Anatomy/Physiology. "Skeletal muscle microstructure and function."
- Baylor College of Medicine, Houston, 1996.** Departments of Molecular Physiology and Biophysics and Medicine. "Diaphragm microcirculation: Structure and Function."
- University of Kansas Medical Center, Kansas City, 1996.** Departments of Physiology and Medicine. "Integrated structure-function relationships in the diaphragm."
- Arizona State University, Tempe, Arizona, 1997.** Department of Exercise Science. "Skeletal muscle structure, plasticity and function."
- University of California, San Diego, 1997.** Department of Medicine. "Structural and Functional Microcirculatory Plasticity."
- University of North Texas, Denton, 1997.** Department of Kinesiology. "Pulmonary and peripheral gas exchange during exercise."
- Hiroshima Womens University, Hiroshima, Japan, 1997.** Department of Kinesiology. "Pulmonary and peripheral oxygen exchange during exercise."
- Kyoto University, Kyoto, Japan, 1997.** Japanese Respiratory Physiology Society. "Mechanistic bases for $\dot{V} O_2$ kinetics."
- Keio Medical School, Tokyo, 1997.** Biochemistry Department. "Muscle microcirculatory consequences of myocardial and diabetic pathology."
- Kirkville College of Osteopathic Medicine, 1998.** Department of Physiology. "Microcirculatory structure-function relationships in myocardial pathology."
- John Moores University, Liverpool, 1998.** Research Institute for Sports and Exercise Sciences. "Muscle microcirculation: structure-function relationships."
- University of Birmingham, England, 1998.** Department of Physiology. "Muscle microcirculatory control."
- St. George's Medical School, London, England, 1998.** Department of Physiology. "Control of muscle oxygen delivery."
- Biomedical Engineering Society, Cleveland, Ohio, 1998.** "Mechanistic basis for the $\dot{V} O_2$ slow component."

Biomedical Engineering Society, Cleveland, Ohio, 1998. “Effects of chronic disease on muscle microcirculatory O₂ delivery.”

Florida State University, Tallahassee, Florida, 1999. “Muscle oxygen exchange: Physiology and Pathophysiology”

Rutgers University, New Brunswick, New Jersey, 2000. “Oxygen exchange dynamics in health and disease.”

University of North Texas, Health Sciences Center, 2001. “Dynamics of oxygen exchange in skeletal Muscle.”

Vanderbilt, Nashville, Tennessee, 2001. “Dynamics of muscle oxygen exchange in health and disease: chronic heart failure and diabetes”

Case Western Reserve University, 2002. “Muscle microvascular oxygen exchange during exercise in health and disease”

Lexington, Kentucky, International Conference on Equine Exercise Physiology, 2002. “Current concepts of oxygen transport during exercise”

University of Kansas Medical School, 2002. “Dynamics of muscle oxygen exchange in health and disease.”

University of North Texas Health Science Center, 2003. “Muscle microcirculatory oxygen exchange in health and disease.”

Institute for Exercise and Environmental Medicine, 2003. “Muscle microcirculatory oxygen exchange in health and disease.”

Texas A&M, Departments of Health and Kinesiology and Medical Physiology, 2003. “Muscle microcirculatory oxygen exchange in health and disease.”

University of Texas Medical Branch, Galveston, 2003. “Muscle microcirculatory oxygen exchange in health and disease.”

University of Texas Health Science Center, San Antonio, 2003. “Muscle microcirculatory oxygen exchange in health and disease.”

Manchester Metropolitan University, England, 2003. “Muscle microcirculatory oxygen exchange in health and disease.”

American College of Sports Medicine, Indianapolis, 2004. “Dynamics of microcirculatory oxygen exchange.”

American College of Sports Medicine, Central States Chapter, Kansas City, 2004. “Sport, exercise and the ACSM: An historical perspective.”

Havemeyer Workshop on EIPH, Vancouver, Canada, 2006. “Alternative therapies for EIPH.”

American College of Sports Medicine, Indianapolis, 2006. “Control of oxygen uptake during exercise.”

American College of Sports Medicine, Indianapolis, 2006. “Capillary recruitment in skeletal muscle during exercise: No”

School of Sports and Health Sciences, University of Exeter, 2006. “Limitations to oxygen transport during exercise in health and disease.”

School of Sport and Exercise Sciences, University of Birmingham, 2006. “Is muscle capillary recruitment obligatory at exercise onset?”

Department of Sport and Exercise Science, Aberystwyth, 2006. “Limitations to oxygen transport during exercise in health and disease.”

Institute of Membrane and Systems Biology, Leeds University, 2006. “Dynamics of oxygen exchange in health and disease.”

Peninsula Medical School, Universities of Exeter and Plymouth, 2006. “Microvascular oxygen transport in health and disease: Myths and misconceptions.”

Department of Sports Sciences, University of Ghent, Belgium, 2006. “Capillary recruitment at exercise onset: Yes or No?”

School of Sports and Health Sciences, University of Exeter, 2007. BASES Workshop. “An Introduction to $\dot{V}O_2$ Kinetics”

School of Sports and Health Sciences, University of Exeter, 2007. BASES Workshop. “Mechanistic bases to the $\dot{V}O_2$ slow component.”

School of Sports and Health Sciences, University of Exeter, 2007. BASES Workshop. “ $\dot{V} O_2$ kinetics: State of the art and directions for future research.”

***Peter A. Rechnitzer Lecture, University of Western Ontario – Canadian Society for Aging, London Ontario, 2007.** “Muscle microcirculatory control in health and disease: Inconvenient truths.”

School of Sports and Health Sciences, University of Exeter, 2008. BASES Workshop. “An Introduction to $\dot{V} O_2$ Kinetics”

School of Sports and Health Sciences, University of Exeter, 2008. BASES Workshop. “Mechanistic bases to the $\dot{V} O_2$ slow component.”

School of Sports and Health Sciences, University of Exeter, 2008. BASES Workshop. “ $\dot{V} O_2$ kinetics: State of the art and directions for future research.”

***International Symposium on Oxygen Transport to Tissue, Sapporo, 2008.** “Muscle microcirculatory oxygen exchange in health and disease.” **Keynote Address.**

Northlands American College of Sports Medicine Annual Meeting, Duluth, Minnesota, 2008. “Myths and the Microcirculation”

Northlands American College of Sports Medicine Annual Meeting, Duluth, Minnesota, 2008. “Muscle O_2 dynamics at exercise onset”

University of Kansas Medical Center, Kansas City, 2009. Departments of Molecular and Integrative Physiology and Medicine. “Myths and the microcirculation: Inconvenient truths.”

University of Missouri, Columbia, 2009. Department of Biomedical Sciences. “Myths and the microcirculation: Inconvenient truths and contrary data.”

Saint Louis University, 2009. Department of Pharmacological & Physiological Science. “Matching microcirculatory O_2 delivery to metabolic demands in skeletal muscle.”

Virginia Commonwealth University, 2009. Department of Physiology and Biophysics. “Matching muscle oxygen delivery to demand in health and disease.”

School of Sports and Health Sciences, University of Exeter, 2010. “Blood-muscle O_2 flux during exercise: Data versus dogma.”

Exercise is Medicine Conference, University of Kansas Medical Center, Kansas City, 2010. “Adaptability of oxygen uptake kinetics: Mechanisms and implications.”

***The Royal Danish Academy of Sciences and Letters, Copenhagen, Denmark. August Krogh Symposium, 2010.** “Dynamics of muscle microcirculatory and blood-myocyte O_2 flux during contractions.”

Whole Health and Alternative Medicine, Department of Medicine, University of Kansas Medical Center, Kansas City, 2010. “Exercise and nutrition: Inconvenient truths.”

West Virginia University, School of Medicine, 2010. “Matching microcirculatory O_2 delivery to metabolic demands in skeletal muscle: Health and disease”

University of Utah, Departments of Exercise Science, Medicine and Veterans Affairs, 2012. “Muscle microvascular oxygen delivery in health and disease: Data versus Dogma.”

National Institutes of Health, 2012. HLBI Working Group on Exercise Training as Therapy for Heart Failure. “Basic Science: What more needs to be learned about pathophysiology of exercise intolerance in HFPEF (and HFREF) in order to design better exercise treatments?”

Anatomy and Physiology, Departmental Seminar, College of Veterinary Medicine, Kansas State, 2013. “Oxygen delivery to tissues in health and disease: Heart failure and hypoxia.”

University of Aarhus, Department of Medicine, Aarhus, Denmark, 2014. “Muscle Microvascular Oxygen Delivery in Health and Disease: Data versus Dogma.”

University of Copenhagen, Copenhagen, Denmark, 2014. “Balancing Muscle Microcirculatory O_2 Delivery and Utilization: Nullius in Verba.”

European College of Sport Science annual meeting, Amsterdam, 2014. “The Power-Time Relationship: Mechanisms of Vascular Control.”

International Symposium on Human Adaptation to Environment and Whole-body Coordination, Kobe, Japan, 2015. “Human Evolution of Exercise Tolerance.”

University of Electro-Communications Chofu and Daiichi-Sankyo Co., Tokyo, 2015. “Oxygen Transport in Health and Disease: Role(s) of Nitric Oxide.”

American College of Sports Medicine, National Meeting, San Diego, 2015. “Oxygen and skeletal muscle: Current perspectives/ Myths and twaddle.”

American College of Sports Medicine, National Meeting, San Diego, 2015. “Vascular control above critical power.”

***D.B. Dill Lecture. American College of Sports Medicine, SouthWest, Mesa, CA, 2015.** “Critical Power: Defining Human Physiology and Evolution”

***The Brasel Basic and Translational Science Seminar,** Harbor-UCLA Medical Center, Torrance, CA. “Muscle Microvascular Oxygen Transport: Challenges in Heart Failure”

University of Oklahoma, Department of Health and Exercise Science, 2015. “Evolution of Exercise Tolerance.”

American Association of Equine Practitioners, Chicago, IL, 2015. Expert panel on Exercise-Induced Pulmonary Hemorrhage (EIPH). “Role of the cardiovascular vs. respiratory systems on EIPH.”

Department of Biochemistry and Molecular Biophysics, Kansas State University, 2016. “Muscle microvascular oxygen transport: Nitric oxide and heart failure.”

***Distinguished/Named Lectureships**

Scientific Sessions Chaired

American College of Sports Medicine, National Meeting, Indianapolis, 1994. “Respiratory Physiology”

American College of Sports Medicine, National Meeting, Indianapolis, 2000. “Physical Activity and Cardiovascular Risk Factors”

American College of Sports Medicine, National Meeting, Baltimore, 2001. “Pulmonary Effects of Exercise”

American College of Sports Medicine, Central States Chapter, Kansas City, 2001. “Muscle metabolism and microcirculation.”

American College of Sports Medicine, National Meeting, San Francisco, 2003. “Hypotension and Orthostasis.” Guest chair with Dr. Michael L. Smith.

American College of Sports Medicine, National Meeting, Indianapolis, 2004. Symposium: “Oxygen uptake dynamics from muscle to mouth.” Co-chaired with Dr. Andrew M. Jones, Manchester Metropolitan University, U.K.

The Physiological Society, Main Meeting, University College London, 2006. “Muscle-energetics and cardio-pulmonary determinants of exercise tolerance in humans.”

ACSM Integrative Physiology of Exercise, Indianapolis, 2006. “Control of oxygen uptake during exercise.”

American College of Sports Medicine, National Meeting, Denver 2011. “Blood flow.”

American College of Sports Medicine, National Meeting, San Francisco, 2012. “Dynamic heterogeneity of exercising muscle O₂ exchange.” Co-Chair with Professor Shunsaku Koga.

European College of Sport Science annual meeting, Amsterdam, 2014. “The Power-Duration Relationship: Physiological Determinants and Implications for Performance Assessment and Exercise Prescription.” Co-Chair with Professor Andrew M. Jones.

International Symposium on Human Adaptation to Environment and Whole-body Coordination, Kobe, Japan, 2015. “Human Evolution of Exercise Tolerance and its Mechanistic Link.” Co-Chair with Professor Shunsaku Koga.

American College of Sports Medicine, National Meeting, San Diego, 2015. Threshold Concepts in Athletic Performance. **“Physiological thresholds: Measurement and mechanistic bases.” Chair.**

American College of Sports Medicine, National Meeting, San Diego, 2015. “Comparative aspects of fatigue.” Dr. James H. Jones. **Introductions and Chair.**

Symposium Presentations

- American College of Sports Medicine, National Meeting, Seattle, 1993.
"Mechanistic basis of the slow component of $\dot{V} O_2$ kinetics during heavy exercise." **Chair and presenter.**
- Oxygen Transport in Health and Disease, Barcelona, 1993.
"Acute and Chronic Plasticity of Diaphragm Structure and Function." **Presenter.**
- American College of Sports Medicine, National Meeting, Cincinnati, 1996
"Mechanical and Metabolic Heterogeneity in Diaphragm." **Co-chair and presenter.**
- Japanese Respiratory Physiology Society, Kyoto Symposium, 1997
"Mechanistic bases for $\dot{V} O_2$ kinetics." **Keynote speaker.**
- Biomedical Engineering Society, Cleveland, Ohio, 1998.
"Oxygen uptake kinetics during heavy exercise." **Co-chair and presenter.**
- American College of Sports Medicine, National Meeting, Indianapolis, 2000.
"Microcirculatory dynamics in health and disease." **Presenter.**
- BASES Conference, John Moores University, Liverpool, England, 2000.
"Dynamics of muscle O_2 exchange: who's pulling, who's pushing?" **Keynote speaker.**
- European College of Sports Science, Cologne, 2001.
"Slow component of oxygen uptake kinetics." **Presenter.**
- Experimental Biology, New Orleans 2002. Wiggers Memorial Symposium in honor of Dr. Loring B. Rowell. "Capillary hemodynamics at the onset of muscle contractions." **Senior Author.**
- International Conference on Equine Exercise Physiology, Louisville, Kentucky, 2002. "The role of the lungs and airways in exercise-induced pulmonary hemorrhage." **Presenter.**
- Respiratory Physiology and Neurobiology: Celebration of Peter Scheid's career, San Diego, California, 2003. "Muscle oxygen exchange in health and disease." **Presenter.**
- American College of Sports Medicine, Indianapolis, 2004. "Oxygen uptake dynamics: from muscle to mouth." **Co-Chair and Presenter.**
- American College of Sports Medicine, Indianapolis, 2004. "Dynamics of microcirculatory oxygen exchange." **Presenter.**
- American College of Sports Medicine, Nashville, 2005. "Microvascular oxygen exchange in emphysema." **Presenter.**
- American College of Sports Medicine, Nashville, 2005. "Diabetes and gas exchange." **Presenter.**

Experimental Biology, San Francisco 2006. “Microcirculatory hemodynamics and oxygenation in aged muscle.” **Presenter.**

ACSM Integrative Physiology of Exercise, Indianapolis, 2006. “Control of oxygen uptake during exercise.” **Introduction.**

American College of Sports Medicine, Denver, 2006. “Determinants of oxygen flux from capillary to myocyte.” **Presenter.**

The Physiological Society, London, 2006. “Oxygen exchange: muscle-vascular-pulmonary coupling.” **Presenter and Co-Chair.**

BASES Workshop, University of Exeter, 2007. “Oxygen Uptake Kinetics: A Practical Approach.” **Presenter and Co-organizer** with Professor A.M. Jones.

BASES Workshop, University of Exeter, 2008. “Oxygen Uptake Kinetics: A Practical Approach.” **Presenter and Co-organizer** with Professor A.M. Jones.

American College of Sports Medicine, Indianapolis, 2008. “ $\dot{V} O_2$ max in Aging and Disease: Role of Skeletal Muscle.” **Presenter and Chair.**

American College of Sports Medicine, Indianapolis, 2008. “Skeletal Muscle Microcirculation.” **Presenter and Chair.**

Canadian Federation of Biological Sciences, Winnipeg, Canada, 2008. “Dynamics of Microcirculatory Function and Oxygen Delivery in Aged Muscle.” **Presenter.**

American College of Sports Medicine, Seattle, 2009. “The Critical Power Concept: Implications for the Determination of $\dot{V} O_2$ max and Exercise Tolerance.” **Presenter.**

American College of Sports Medicine, Baltimore, 2010. “The slow component of $\dot{V} O_2$ kinetics: History and significance.” **Co-chair and presenter.**

American College of Sports Medicine, National Meeting, San Francisco, 2012. “Dynamic heterogeneity of exercising muscle O_2 exchange” **Introduction and Co-Chair.**

American College of Sports Medicine, National Meeting, San Francisco, 2012. “Diabetic microangiopathy and impaired cardiopulmonary response to exercise.” **Co-Chair and Presenter** with Dr. Chris Baldi.

American College of Sports Medicine, National Meeting, San Francisco, 2012. “Changing the oxygen cost of exercise: New discoveries, novel implications (In memory of Brian Whipp)” **Keynote Lecture.**

The Systems Biology of Exercise: Cardio-Respiratory and Metabolic Integration, Leeds, U.K., 2012. “Balancing muscle microcirculatory O_2 delivery and utilization: *Nullius in verba.*” **Keynote Lecture.**

American College of Sports Medicine, National Meeting, Indianapolis, 2013. “Muscle hemodynamic control relative to critical power.” **Presenter.**

American College of Sports Medicine, National Meeting, Indianapolis, 2013. “Brian Whipp’s scientific legacy: Extraordinary insights and future directions.” **Chair and Presenter.**

American College of Sports Medicine, National Meeting, Indianapolis, 2013. “Perspectives of scientific logic: Hindrances to understanding.” **Presenter.**

American College of Sports Medicine, National Meeting, San Diego, 2015. “Oxygen and skeletal muscle: Current perspectives/ Myths and twaddle.” **Presenter.**

American College of Sports Medicine, National Meeting, San Diego, 2015. “Vascular control above critical power.” **Presenter.**

American College of Sports Medicine, National Meeting, San Diego, 2015. Threshold Concepts in Athletic Performance. “**Physiological thresholds: Measurement and mechanistic bases.**” **Chair and presenter.**

Students/Scientists Trained

Undergraduate: Casey A. Kindig, Emily R. Diederich, Richard J. Roberts, Jay Harper, William Marshall, Holly Brown-Feltner, Brad J. Behnke, Janet K. Bailey, John A. Russell, Kevin Eklund, Kelly R. Brown, Lanell Blubaugh, Melissa Timm, Joslyn Hansen, Alex Fees, Angela Glean, **Brian Collins, Trenton Colburn, Andrew Stevens.** *Howard Hughes Medical Institute Research Scholars 2002-*, Kyle Ross, Randy Eilert, Kyle Jansson. *McNair Scholars 2011-*, Gabrielle Sims. Hunter Jewett.

Masters: Richard N. Petrisko*, Christine S. Williams, Jamie A. Bulf, LinJing Xu, Gwen M. Appleberry, Tonya M. Bunkers, James T. Griffing*, Karen Sue Hageman, Rebecca Harder, Casey A. Kindig*, Christian Larson, Jennifer R. Mendoza, Richard J. Roberts, Brianna Williams, Winiata Shortland, Patrick C. Pfeiffer, Kristen Meadows, Brian Frazier, Crystal Finkbone/Geer*, Emily R. Diederich*, Brad J. Behnke*, Troy E. Richardson*, Janet K. Bailey, John A. Russell*, Maria DeBoer, Kelly R. Brown, Serena McEntire, Kevin E. Eklund, Tyler Barker, Clay Greeson, Ekaterini Fotopoulou, Amy Downey, Allison Harper, Scott Hahn*, Jeremiah Williams, Kim Lawson-Roth, Derek Mantey*, Renee J. Wicker, Kyle F. Herspring, Steven W. Copp, Michelle Davis, Lauren Hammel, Matt Chrisman*, Robert T. Davis III, Kate E. Swain, Dan Debes, Peter J. Schwagerl, Katie E. Schmidt, Sarah Corn, Chrishonda Brown, Zacharia Afram Modi, Scott K. Ferguson*, Ryan M. Broxterman, Tanner McNamara, Brian Sanborn, Jeremy Keen, Gabrielle Rico (Sims), Erica Levitt, Susie Shlup, Samuel R. Emerson, Samuel Wilcox, Abigail Thomson (MFA), Megan Cole, Matthew Brown, Anthony Garcia, Brian Quaison, Jesse Craig, Alex Winter, Tammi Paolili, Angela A. Glean, Samantha Kannwin (*Chair)

Professional NIH Veterinary Scholars: Janet K. Bailey*, Leah Ferguson, Casey Ramsel, Lisa Abbo*, Jessica Gentile,* Stuart Clark-Price, DVM, Melanie Ray*, Michael J. White, Jennifer L. Wright* (*Chair)

Doctoral: Donald E. Bebout, Sanjay Batra, Ingrid Langsetmo, D.V.M., John P. Mattson, M.S., Casey A. Kindig*, M.S., Paul McDonough, Timothy Bauer, Brad J. Behnke*, Danielle Padilla*, Leonardo F. Ferreira, Tammi Epp*, Barbara Lutjemeir, Dana Townsend, Steven W. Copp, Fred DiMenna, Carl J.

Ade, Daniel M. Hirai*, Ryan M. Broxterman, Scott K. Ferguson*, Christopher M. Bopp, Clark T. Holdsworth, Joshua Smith (*Chair/Co-Chair)

External Chair: Li-Chun Lin, Barry Lambert, Jennifer Case, Mathew David Johnson.

Post-Doctoral: Walter Schaffartzik, M.D., Douglas R. Knight, M.D., Ph.D., Toniann Derion, Ph.D., Russell S. Richardson, Ph.D., Jose Arcos, M.D., Renato Prediletto, M.D., Bruno Grassi, M.D., Koichi Tsukimoto, M.D., Sadi S. Kurdak, M.D., Lorraine H. Manciet, Ph.D., Paul McDonough, Ph.D., Yutaka Kano, Ph.D., Tadakatsu Inagaki, Ph.D.

Clinical Faculty Mentoring Committees (2007-2013): Dr. Marco Margiocco, Assistant Professor of Cardiology and Dr. Justin Thomason, Assistant Professor of Cardiology: Department of Clinical Sciences, Kansas State University, College of Veterinary Medicine.

External Examiner (International): Fred Dimenna (Doctoral, Exeter, UK, 2010), Romina Villamonte (Masters, Auckland University, NZ, 2014), Alyssa Fenuta (Doctoral Candidacy, Queen's University, Canada, 2015), Scott Sheng-Yi Betteridge (Doctoral, Victoria University, Melbourne, Australia, 2015)

Detailed information on select Students/Scientists Trained

Name, degree, thesis title, publications, grants, awards/honors, current/last position (if known).

Undergraduate Students

2011-2013

Gabrielle Rico/Sims, Project Title: *“The role of nNOS in cardiovascular control.”*

Hunter Jewett

Adam Huff

Angela Glean, Project/Talk Title: *“Effect of nitrite infusion on blood flow & conductance in heart failure.”*

Samuel Wilcox

Professional (DVM) Students

Janet K. Bailey, Project Title: *“Spinotrapezius muscle microcirculatory function: effects of surgical exteriorization”*

Leah Ferguson, Project Title: *“Effects of external nasal support on pulmonary gas exchange and EIPH in the horse.”*

Casey Ramsel, Project Title: *“Inclined running increases pulmonary hemorrhage in the Thoroughbred horse.”*

Lisa Abbo, Project Title: *“Hypovolemic hypotension alters the dynamic balance between O₂ delivery and utilization in contracting skeletal muscle.”*

Jessica Gentile, Project Title: *“Exercise-induced pulmonary hemorrhage (EIPH) during sub-maximal exercise.”*

Melanie A. Ray, Project Title: *“Effects of nNOS Inhibition on Sympathetic Nerve Activity”*

Michael J. White, Project Title: *“Epicatechin administration and exercising skeletal muscle vascular control and microvascular oxygenation in healthy rats.”*

Jennifer Wright, current, Project Title: *“Microcirculatory consequences of traumatic ischemia.”*

Masters Students

Richard N. Petrisko, M.S., Thesis Title: “*Structural and functional heterogeneity of the horse diaphragm.*” **1 publication, 1 abstract, Medical Research Assistant, Sloane Kettering Hospital.**

Rebecca Harder, M.S., Thesis Title: “*The use of exercise in the prevention of falling in the elderly population.*”
Registered Nurse specializing in care of the elderly.

Linjing Xu, M.S., Thesis Title: “*Microvascular consequences of chronic heart failure in skeletal muscle: Implications for oxygen transfer.*” **1 publication, 1 abstract, Research Associate, Physiology, University of Iowa.**

Patrick C. Pfeiffer, M.S., Thesis Title: “*Effects of skeletal muscle oxidative capacity on exercise tolerance following myocardial infarction.*” **2 publications, 2 abstracts, Doctor of Physical Therapy, Creighton University.**

K. Sue Hageman, M.S., Thesis Title: “*Skeletal muscle blood flow responses in female and male rats at rest and during exercise.*” **3 publications, 4 abstracts, Research Technician, Dept. Anatomy and Physiology, Kansas State University.**

Emily R. Diederich, M.S., Thesis Title: “*The effect of myocardial infarction on microvascular PO₂ dynamics.*” **1 publication, 4 abstracts; 1st Place poster award, ACSM (Central states Chapter), M.D. and Medical Resident; University of Pennsylvania.**

Toby Tinsley, M.S., Thesis Title: “*The effects of heating on paraventricular nucleus FOS expression.*” **M.D. Baylor, Texas.**

Kevin E. Eklund, M.S., Thesis Title: “*Impact of aging on muscle blood flow in chronic heart failure.*” **2 publications, 2 abstracts, Doctoral student, Dept. Physiology, University of Missouri, Columbia.**

Brad J. Behnke, M.S., Thesis Title: “*Dynamics of muscle microvascular PO₂ across the rest-exercise transition.*” **3 publications, 8 abstracts, Post-Doctoral Fellow (12/03); Texas A&M University (Mentor: Dr. Michael Delp) Tenure Track Assist. Prof. Univ. Florida.**

Janet K. Bailey, M.S., Thesis Title: “*Spinotrapezius muscle microcirculatory function: effects of surgical exteriorization.*” **2 publications, 4 abstracts; NIH Short-term training program scholar 1999-2000, Resident Veterinarian in Cardiology, University of Louisiana Veterinary Medical Center.**

Casey A. Kindig, M.S., Thesis Title: “*A comparison of the microcirculation in the passive spinotrapezius and diaphragm muscles of the rat.*” **4 publications, 11 abstracts, continued into Doctoral Program, Anatomy and Physiology, Kansas State University, Deceased.**

Crystal M. Geer, M.S., Thesis Title: “*Dynamics of microvascular oxygen exchange: Role of oxidative capacity.*” **1 publication, 2 abstracts, Research Consultant; Gore Medical Products; Flagstaff, AZ.**

Troy E. Richardson, M.S., Thesis Title: “*The effects of chronic heart failure on skeletal muscle blood flow across the rest-to-exercise transition: Implications for oxygen diffusing capacity.*” **3 publications, 5 abstracts:**

1st Place poster award, ACSM (Central States Chapter, ACSM), Ph.D. Candidate, Department of Statistics, Kansas State University.

John A. Russell, M.S., Thesis Title: “Effects of aging on muscle microcirculation.” 1 publication, 1 abstract, Research Technician and Doctoral Student; University of Wisconsin, Madison, WI.

Tyler Barker, M.S., Thesis Title: “The critical power-oxygen uptake relation at different pedaling frequencies.” (Major Professor: Dr. T.J. Barstow). 1 publication, 1 abstract, Ph.D., Oregon State University. Staff Scientist, The Orthopedic Specialty Hospital, Murray, UT.

Kyle F. Herspring, M.S., 2 publications, 5 abstracts. Thesis Title: “Effects of antioxidants on contracting muscle microvascular oxygenation and blood flow in aged rats.” 2 publications, 5 abstracts. Physicians Assistant Program, Wichita State University.

Steven W. Copp, M.S., Thesis Title: “The effects of aging on capillary hemodynamics in contracting rat spinotrapezius muscle.” 4 publications, 6 abstracts, Doctoral Program in Anatomy and Physiology at Kansas State University, currently a post-doctoral fellow with Dr. Marc Kaufman, Heart and Vascular Institute, Penn State College of Medicine, Hershey, PA.

Katherine E. Swain, M.S., Thesis Title: “Sex differences in exercise-induced flow limitation in prepubescent children: prevalence and implications.” 2 publications (1 published, 1 in preparation), 1 abstract, 1st year of Medicine, College of Osteopathic Medicine at Des Moines University.

Scott A. Hahn, M.S., Thesis Title: “Downhill treadmill running trains the rat spinotrapezius muscle.” 3 publications, 1 abstract, Research Associate, Kansas State University College of Veterinary Medicine.

Peter J. Schwagerl, M.S., Thesis Title: “The Effects of Ascorbic Acid on Skeletal Muscle Blood Flow in Aged Rats.” 1 publication, 4 abstracts, Pre-doctoral scholar, University of Florida.

Clark T. Holdsworth, M.S., Thesis Title: “Effects of dietary fish oil on exercising skeletal muscle vascular control in chronic heart failure rats.” 6 publications, 10 abstracts, Pre-doctoral scholar, K-State, A&P.

Scott K. Ferguson, M.S., Thesis Title: “Impact of dietary nitrate supplementation via beetroot juice on exercising muscle vascular control in rats.” 8 publications, 12 abstracts, Kinesiology Best Master’s Student Award, 2013. Pre-doctoral scholar, K-State, A&P.

Gabrielle Rico (Simms), M.S., Thesis Title: “Effect of pentoxifylline on muscle vascular control in chronic heart failure” Medical Studies Director, KU Med.

Angela Glean, M.S. Thesis Title: “Effects of nitrate supplementation on muscle vascular control in health and cardiovascular disease.” APS Summer Stride Scholarship.

Trenton Colburn, M.S. Thesis Title: “Effect of sodium nitrite on local control of contracting skeletal muscle microvascular oxygen pressure in healthy rats.” All-University Best Biological Science Poster, 2016.

Doctoral Students

John P. Mattson, Ph.D. (1997), Dissertation/Project Title: *“Induction of mitochondrial stress proteins following treadmill running.”* H-Index 5; 6 publications, 10 abstracts; ACSM Young investigator Award, 1996, Assistant Professor, Physiology, Gustavus Adolphus University, Minnesota.

Ingrid Langsetmo, Ph.D. (1998), Dissertation/Project Title: *“ $\dot{V} O_2$ kinetics in the horse at moderate and heavy exercise.”* 7 publications, Fibrogen Inc., San Francisco, Director of Cardiovascular Research.

Casey A. Kindig, Ph.D. (2001), Dissertation Title: *“Regulation of microvascular oxygen exchange in skeletal muscle.”*

H-index 21; 32 publications, 49 abstracts; 3 grants including: NIH Post-Doctoral Fellowship; ACSM Young Investigator Award, Assistant Research Physiologist; UCSD (La Jolla), Tenure Track Assist. Prof. Univ. Kansas, School of Medicine. Deceased.

Brad J. Behnke, Ph.D. (2003), Dissertation Title: *“Control of microvascular oxygen pressures at the onset of contractions in health and disease”* H-index 19; 33 publications, 34 abstracts; 3 grants including NIH Pre-doctoral Fellowship; APS Environmental and Exercise Physiology Recognition Award; ACSM 1st Place Student Research Award, Individual NIH NRSA 2005-2008, NIH K-Award 2008, APS EEP New Investigator Award 2009, Associate Professor of Kinesiology, Kansas State University.

ACSM New Investigator Award 2009, Post-Doctoral Fellow (12/03); Texas A&M University (Mentor: Dr. Michael Delp), Tenure Track Assist. Prof. Univ. Florida.

Timothy A. Bauer, Ph.D., (2005) Dissertation Title: *“Oxygen uptake kinetics in peripheral arterial disease.”* 2 publications, Research Associate, University of Colorado Health Sciences Center.

Danielle J. Padilla, Ph.D., (2005) Dissertation Title: *“Cardiovascular and ventilatory limitations in the oxygen transport pathway.”* H-index 5; 16 publications, 20 abstracts; NIH Pre-doctoral Fellowship; American Quarter Horse Association Research Grant, Post-doctoral Fellow, EPA – Toxicology, N. Carolina. Health Science Administrator, the Division of Extramural Research & Training at the National Institutes of Environmental Health Sciences (NIEHS).

Tammi S. Hildreth/Epp, Ph.D., (2005) Dissertation Title: *“Exercise-induced pulmonary hemorrhage: Determination of mechanisms and potential treatments.”* 8 publications, 5 abstracts; 4 grants including NSF, KRGC, AAEP; Excellence in Science Presentation, 2nd Place, 2003, United BioNutrition, Director of Research, Equine Consultant.

Leonardo F. Ferreira, Ph.D., (2006) Dissertation Title: *“Effects of altered nitric oxide availability on rat muscle microvascular oxygenation during contractions.”* H-index 6; 16 publications, 17 abstracts, ACSM. Science Award, >\$110,000 grant funding, Post-Doctoral Fellow, Dept. of Physiology, University of Kentucky (Mentor: Dr. Michael B. Reid). Assistant Professor, Department of Applied Physiology and Kinesiology, University of Florida, Gainesville, FL.

Daniel M. Hirai, Ph.D. (2012) Dissertation Title: *“Oxygen delivery-utilization matching in skeletal muscle.”* Capes-Brazil Fulbright Fellow. H-index 5; 19 publications, 15 abstracts, ACSM Pre-doctoral Fellow Science Award, >\$105,000 grant funding. Post-doctoral mentor: Dr. Alberto Neder, Department of Medicine, Queens University, Kingston, ON.

Carl J. Ade, Ph.D. (2013) Dissertation: “*Anterograde and retrograde blood velocity profiles in the intact human cardiovascular system.*” **9 publications, Co-I on NASA Grant, \$1,000,000 with T.J. Barstow (Major Professor). Assistant Professor, Department of Health and Exercise Science, University of Oklahoma.**

Steven W. Copp, Ph.D. (2013) Dissertation Title: “*Enzymatic regulation of skeletal muscle oxygen transport: Novel roles for neuronal nitric oxide synthase.*” **H-index 8; 28 publications, 29 abstracts, ACSM Pre-doctoral Fellow Science Award, >\$80,000 grant funding. Post-doctoral mentor: Dr. Marc Kaufman, Hershey Medical Center, Hershey, Pennsylvania.**

Scott K. Ferguson, Ph.D. (2015) Dissertation Title: “*Skeletal muscle vascular and metabolic control: Impacts of exogenous and endogenous nitric oxide synthesis.*” **H-index 6; 17 publications, 20 abstracts, APS Pre-doctoral Award, Best Master’s Student in Kinesiology, 3 CVM Scholarships, 2 Provost’s Research Excellence Awards. Post-doctoral mentor: Dr. David C. Irwin. Cardiovascular Pulmonary Research Group, Division of Cardiology, School of Medicine, University of Colorado at Denver.**

Clark T. Holdsworth, Ph.D. (2015) Dissertation Title: “*Vascular ATP sensitive potassium channels impact spatial and temporal oxygen transport: Implications for sulphonylurea therapy.*” **H-index 6. University Distinguished Professor’s Doctoral Award. 17 publications, 17 abstracts, APS Pre-doctoral Award, 2 CVM Scholarships, 2 Provost’s Research Excellence Awards.**

Post-Doctoral Fellows

Walter Schaffartzik, M.D., Project Title: “*Contribution of exercising legs to the slow component of oxygen uptake kinetics in man.*” **6 publications, 7 abstracts, Head of Intensive Care Department, Frei Universitat, Berlin, Germany.**

Douglas R. Knight, M.D., Ph.D., Project Title: “*Relationship between body and leg $\dot{V} O_2$ during maximal cycle ergometry.*” **9 publications, 13 abstracts, Cardiology Diagnostic Services, Children’s Hospital, Columbus, Ohio.**

Toniann Derion, Ph.D., Project Title: “*Ventilation/ perfusion (V_A/Q) relationships in the lung during head-out water immersion.*” **3 publications, 3 abstracts, Science Editor, BELS.**

Russell S. Richardson, Ph.D., Project Title: “*High muscle blood flow in man: Is maximal O_2 extraction compromised?*” **4 publications, 9 abstracts, Professor, Division of Geriatrics, Department of Medicine, University of Utah, Salt Lake City.**

Bruno Grassi, M.D., Project Title: “*Muscle O_2 kinetics in humans: implications for metabolic control.*” **4 papers, 5 abstracts, Professor, Universita degli Studi di Udine, Italy.**

Sadi S. Kurdak, M.D., Project Title: “*L-(+)-Lactate infusion into working dog gastrocnemius: no evidence lactate per se mediates $\dot{V} O_2$ slow component.*” **4 publications, 4 abstracts, Clinical and Science Faculty, Cukurova Universitesi, Balcali-Adana, Turkey.**

Paul McDonough, Ph.D., Project Title: “*Effects of fiber type profile on microvascular oxygenation during and following contractions.*” **H-Index 12; 32 publications, 31 abstracts; 4 grants including NIH Individual Post-doctoral NRSA, Associate Professor, Department of Kinesiology, UT Arlington.**

Yutaka Kano, Ph.D., Project Title: *“Effects of eccentric exercise on microcirculation and microvascular oxygen pressures in rat spinotrapezius muscle.”* **5 publications, 6 abstracts, Professor, Department of Applied Physics and Chemistry, University of Electrocommunications, Chofu, Tokyo, Japan.**

Community Academic Service

Eugene Field Science night (1st-3rd grade), 1997-. “How lungs work in health and what smoking does.”
Professor M. Roger Fedde Retirement Roast, 1998. College of Veterinary Medicine.
Manhattan Mercy Hospital Better Breathers Association, 1999-. “Respiratory muscle function in emphysema.” “Role of exercise training in reducing the ventilatory demands of physical activity.”
GROW (Girls reaching out to the World) Program for introducing girls to science, 1998-. “Introduction to equine research and performance.”
Treadmill demonstrations and introduction to equine research, 1998-. 4 H groups, 1998-. Animal Science, Veterinary, Kinesiology students
Flint Hills Christian School, 2002. “What blood cells look like and how they work.”
Animal Exercise Study Design Workshop, American Physiological Society, 2003-2005.
Presidential Lecture Series, 2005&2006. “The pathway for oxygen: Powering human and animal muscles”
American Heart Association, 2005. “Mechanisms of microcirculatory dysfunction in heart failure.”
Graduate Student Council, 2006. “Teaching Philosophy for Graduating Graduate Students.”
SCAVMA 1st Annual Talent Show. Master of Ceremonies and impromptu stand-up, 2007.
Presidential Lecture Series, 2007. “Everyone should be a scientist.”
American Diabetes Association. Annual meeting abstract reviewer, 2008.
Presidential Lecture Series, 2008. “Running fast: Secrets from Animals.”
SCAVMA 3rd Annual Talent Show. Master of Ceremonies and impromptu stand-up, 2009.
College of Veterinary Medicine, White Coat Ceremony. Basic Sciences speaker, 2009.
Lee Elementary School, 2009. “Oxygen: Why we need it, where it goes and how it gets there.”
Presidential Lecture Series, 2009/2010/2011. “Why horses run faster than we do: An oxygen transport story.”
Presidential Lecture: Council Grove High School, 2009.
Presidential Lecture: Macksville High School, “Everyone should be a scientist”. 2010.
Presidential Lecture: Topeka West High School, “Why do horses run faster than we do?”: An oxygen transport story. Ms. Lila Bartel, 2011.
Professor Howard H. Erickson Retirement Speech, 2011. College of Veterinary Medicine.
President Barack Obama Recognition Award Speech, 2011. To Mrs. Markeydi Ewing and Lee School.
Presidential Lecture: Olathe North High School “Is obesity a disease?” Ms. Sara Heptig, 600 E. Prairie, Olathe, KS 66061, 2011.
SCAVMA 5th Annual Talent Show. Master of Ceremonies and impromptu stand-up, 2012.
Animal Resource Facility Lecture, K-State “Chronic heart failure: experimental strategy and progress.” 2012.
Meet the Editor, Journal of Applied Physiology, American Physiological Society, ACSM National Meeting, San Francisco, 2012.
Auctioneer, Exotic Animal Medicine Club, College of Veterinary Medicine semi-annual fundraiser, 2012.
Herpetological Surveyor, Fort Riley, Kansas, 2013.
Meet the Editor, Journal of Applied Physiology, American Physiological Society, ACSM National Meeting, Indianapolis, 2013.
Lee Elementary School, 2013. “Costa Rica, Fauna, Flora and Herpetology.”
Presidential Lectures: Olathe North High School “Is obesity a disease?” Ms. Mary Caylamore, 600 E. Prairie, Olathe, KS 66061, 2013.
SCAVMA 7th Annual Talent Show. Master of Ceremonies and impromptu stand-up, 2014.

Kansas State University Open House, “Obesity as a Disease”, 2014.
Lee Elementary School, 2014. “The heart and lungs in health and disease.”
Presidential Lecture: Salina Central High School “Is obesity a disease?” Ms. Darcy Leech, 2014. 650 E. Crawford Street, Salina, KS 67401.
Parallel Paths College of Veterinary Medicine Mentor. 2016-

Publications

Refereed Papers

1. Maughan, R.J. and D.C. Poole. The effects of a glycogen loading regimen on the capacity to perform anaerobic exercise. Eur. J. Appl. Physiol. 46:211-219, 1981.
2. Gaesser, G.A., D.C. Poole and B.P. Gardner. Dissociation between $\dot{V}O_2$ and ventilatory threshold responses to endurance training. Eur. J. Appl. Physiol. 53:242-247, 1984.
3. Poole, D.C. and G.A. Gaesser. Response of ventilatory and lactate thresholds to continuous and interval training. J. Appl. Physiol. 58:1115-1121, 1985.
4. Gaesser, G.A. and D.C. Poole. Lactate and ventilatory thresholds: Disparity in time course of adaptations to training. J. Appl. Physiol. 61:999-1004, 1986.
5. Henson, L.C., D.C. Poole, C.P. Donahoe and D. Heber. Effects of exercise training on resting energy expenditure during caloric restriction. Am. J. Clin. Nutr. 46:893-899, 1987.
6. Poole, D.C. and L.C. Henson. The effect of acute caloric restriction on work efficiency. Am. J. Clin. Nutr. 47:15-18, 1988.
7. Poole, D.C., S.A. Ward and B.J. Whipp. Control of blood gas and acid-base status during isometric exercise in humans. J. Physiol. (London). 396:365-377, 1988.
8. Poole, D.C., S.A. Ward, G. Gardner and B.J. Whipp. A metabolic and respiratory profile of the upper limit for prolonged exercise in man. Ergonomics 31: 1265-1279, 1988.
9. Gaesser, G.A. and D.C. Poole. Blood lactate during exercise: Time course of training adaptation in humans. Int. J. Sports Med. 9: 284-288, 1988.
10. Poole, D.C., O. Mathieu-Costello and J.B. West. Capillary tortuosity in rat soleus muscle is not affected by endurance training. Am. J. Physiol. 256: H1110-1116, 1989.
11. Poole, D.C., and O. Mathieu-Costello. Muscle capillary geometry: Effects of chronic altitude exposure. Respir. Physiol. 77: 21-30, 1989.

12. Henson, L.C., D.C. Poole and B.J. Whipp. Fitness as a determinant of the oxygen uptake response to constant-load exercise. Eur. J. Appl. Physiol. 59: 21-28, 1989.
13. Poole, D.C., S.A. Ward and B.J. Whipp. The effect of training on the metabolic and respiratory profile of heavy and severe exhausting exercise. Eur. J. Appl. Physiol. 59: 421-429, 1990.
14. Bebout, D.E., D. Story, J. Roca, M.C. Hogan, D.C. Poole, R. Gonzalez, O. Ueno, P. Haab and P.D. Wagner. Effects of altitude acclimatization on pulmonary gas exchange during exercise. J. Appl. Physiol. 67: 2286-2295, 1990.
15. Poole, D.C., and O. Mathieu-Costello. Analysis of capillary geometry in rat sub-epicardium and sub-endocardium. Am. J. Physiol. 259: H204-210, 1990.
16. Poole, D.C., and O. Mathieu-Costello. Effect of hypoxia on capillary orientation in anterior tibialis muscle of highly active mice. Respir. Physiol. 82: 1-10, 1990.
17. Poole, D.C., W. Schaffartzik, D.R. Knight, T. Derion, B.Kennedy, H.J.B. Guy, R. Prediletto, and P.D. Wagner. Contribution of exercising legs to the slow component of oxygen uptake kinetics in man. J. Appl. Physiol. 71:1245-1253, 1991.
18. Schaffartzik, W., D.C. Poole, T. Derion, K. Tsukimoto, M.C. Hogan, J. Arcos, E. Bebout and P.D. Wagner. V_A/Q distribution during heavy exercise and recovery in humans: implications for pulmonary edema. J. Appl. Physiol. 72: 1657-1667, 1992.
19. Poole, D.C., S. Batra, O. Mathieu-Costello, K. Rakusan. Capillary geometrical changes with fiber shortening in rat myocardium. Circ. Res. 70: 697-706, 1992.
20. Derion, T., H.J.B. Guy, K. Tsukimoto, W. Schaffartzik, R. Prediletto, D.R. Knight, D.C. Poole, and P.D. Wagner. Ventilation/ perfusion (V_A/Q) relationships in the lung during head-out water immersion. J. Appl. Physiol. 72: 64-72, 1992.
21. Poole, D.C., and O. Mathieu-Costello. Capillary and fiber geometry in rat diaphragm perfusion fixed in situ at different sarcomere lengths. J. Appl. Physiol. 73: 151-159, 1992.
22. Knight, D.R., D.C. Poole, W. Schaffartzik, H.J. Guy, R. Prediletto, M.C. Hogan, and P.D. Wagner. Relationship between body and leg $\dot{V}O_2$ during maximal cycle ergometry. J. Appl. Physiol. 73: 1114-1121, 1992.
23. Roca, J., A.G. Agusti, A. Alonso, D.C. Poole, C. Viegas, J.A. Barbera, R. Rodriguez-Roisin, A. Ferrer, and P.D. Wagner. Effects of training on muscle O_2 transport at $\dot{V}O_{2max}$. J. Appl. Physiol. 73: 1067-1076, 1992.
24. Poole, D.C., G.A. Gaesser, M.C. Hogan, D.R. Knight, and P.D. Wagner. Pulmonary and leg $\dot{V}O_2$ during submaximal exercise: implications for muscular efficiency. J. Appl. Physiol. 72: 805-810, 1992.

25. Schaffartzik, W., E.D. Barton, D.C. Poole, M.C. Hogan, K. Tsukimoto, D.E. Bebout, and P.D. Wagner. The effect of altered hemoglobin concentration on O₂ diffusion from blood to muscle at maximal exercise. J. Appl. Physiol. 75: 491-498, 1993.
26. Richardson, R.S., D.C. Poole, D.R. Knight, S.S. Kurdak, M.C. Hogan, B. Grassi, E.C. Johnson, K.Kendrick, B.K. Erickson, and P.D. Wagner. High muscle blood flow in man: Is maximal O₂ extraction compromised? J. Appl. Physiol. 75: 1911-1916, 1993.
27. Knight, D.R., W. Schaffartzik, D.C. Poole, M.C. Hogan, and P.D. Wagner. Effect of hyperoxia on maximal leg O₂ supply and utilization in man. J. Appl. Physiol. 75: 2586-2594, 1993.
28. Poole, D.C., R.L. Lieber, and O. Mathieu-Costello. Myosin and actin filament lengths in diaphragm from emphysematous hamsters. J. Appl. Physiol. 76: 1220-1225, 1994.
29. Poole, D.C., L.B. Gladden, S. Kurdak, and M.C. Hogan. L-(+)-Lactate infusion into working dog gastrocnemius: no evidence lactate per se mediates $\dot{V}O_2$ slow component. J. Appl. Physiol. 76: 787-792, 1994.
30. Manciet, L.H., D.C. Poole, O. Mathieu-Costello, P.F. McDonough and J.G. Copeland. Microvascular compression during myocardial ischemia: mechanistic basis for no-reflow phenomenon. Am. J. Physiol. 266: H1541-1550, 1994.
31. Sexton, W.L., D.C. Poole, and O. Mathieu-Costello. Microcirculatory structure-function relationships in skeletal muscle of diabetic rats. Am. J. Physiol. 266: H1502-1511, 1994.
32. Suematsu, M., F.A. DeLano, D.C. Poole, R.L. Engler, B.W. Zweifach, and G.W. Schmid-Schoenbein. Spatial and temporal relationship between leucocyte behavior and cell injury in postischemic muscle microcirculation. Lab. Invest. 70: 684-695, 1994.
33. Hogan, M.C., L.B. Gladden, S. Kurdak, and D.C. Poole. L-(+)-lactate infusion into submaximally working dog gastrocnemius. II. Tension reduction independent of pH. Med. Sci. Sports Exerc. 27: 371-377, 1995
34. Richardson, R.S., D.R. Knight, D.C. Poole, S. Sadi Kurdak, M.C. Hogan, B. Grassi and P.D. Wagner. Determinants of $\dot{V}O_2$ during single leg knee extensor exercise in man. Am. J. Physiol., 268: H1453-1461, 1995.
35. Wait, J.L., D. Staworn, and D.C. Poole. Diaphragm thickness heterogeneity at functional residual capacity and total lung capacity. J. Appl. Physiol. 78: 1030-1036, 1995.
36. Poole, D.C., P.D. Wagner, and D.F. Wilson. Diaphragm microvascular plasma PO₂ measured in vivo. J. Appl. Physiol. 79: 2050-2057, 1995.
37. Sexton, W.L., and D.C. Poole. Costal diaphragm blood flow heterogeneity at rest and during exercise. Respir. Physiol. 101: 171-182, 1995.
38. Suzuki, H., D.C. Poole, B.W. Zweifach and G.W. Schmid-Schoenbein. Temporal correlation between maximum force and cell death in postischemic rat skeletal muscle. J. Clin. Invest. 96: 2892-2897, 1995.

39. Grassi, B., D.C. Poole, R.S. Richardson, D.R. Knight, B.K. Erickson, and P.D. Wagner. Muscle O₂ kinetics in humans: implications for metabolic control. J. Appl. Physiol. 80: 988-998, 1996.
40. Knight, D.R., D.C. Poole, M.C. Hogan, D.E. Bebout, and P.D. Wagner. The effect of inspired O₂ concentration on leg lactate release during incremental exercise. J. Appl. Physiol. 81: 246-251, 1996.
41. Poole, D.C., and O. Mathieu-Costello. Relationship between fiber capillarization and mitochondrial volume density in control and trained rat soleus and plantaris muscles. Microcirculation 3: 175-186, 1996.
42. Musch, T.I., and D.C. Poole. Blood flow response to treadmill running in the rat spinotrapezius muscle. Am. J. Physiol. 271: H2730-2734, 1996.
43. Poole, D.C., and O. Mathieu-Costello. Effect of pulmonary emphysema on diaphragm capillary geometry. J. Appl. Physiol., 82: 599-606, 1997
44. Poole, D.C., T.I. Musch, and C.A. Kindig. In vivo microvascular structural and functional consequences of muscle length changes. Am. J. Physiol. 272: H2107-2114, 1997.
45. Langsetmo, I., G.E. Weigle, M.R. Fedde, H.H. Erickson, and D.C. Poole. $\dot{V}O_2$ kinetics in the horse during moderate and heavy exercise. J. Appl. Physiol. 83: 1235-1241, 1997.
46. Kindig, C.A., W.L. Sexton, M.R. Fedde, and D.C. Poole. Skeletal muscle microcirculatory structure and function in diabetes. Respir. Physiol. 111: 163-175, 1998.
47. Sexton, W.L., and D.C. Poole. Effect of emphysema on diaphragm blood flow during exercise. J. Appl. Physiol. 84: 971-979, 1998.
48. Xu, L., D.C. Poole, and T.I. Musch. Effect of chronic heart failure on muscle capillary geometry: implications for oxygen exchange. Med. Sci. Sports Exerc. 30: 1230-1237, 1998.
49. Kindig, C.A., and D.C. Poole. Microcirculatory characteristics of the rat diaphragm and spinotrapezius muscles. Microvasc. Res. 55: 249-259, 1998.
50. Mattson, J.P. and D.C. Poole. Pulmonary emphysema decreases hamster skeletal muscle oxidative enzyme capacity. J. Appl. Physiol. 85: 210-214. 1998
51. Richardson, R.S., J. Sheldon, D.C. Poole, S.R. Hopkins, A.L. Reis, and P.D. Wagner. Evidence of skeletal muscle metabolic reserve during whole body exercise in patients with COPD. Am. J. Resp. Crit. Care Med. 159: 881-885, 1999.
52. Kindig, C.A., and D.C. Poole. Effects of sarcomere length on in vivo capillary distensibility. Microvasc Res. 57: 144-152, 1999.
53. Kindig, C.A., T.I. Musch, R. Basaraba, and D.C. Poole. Impaired capillary hemodynamics in skeletal muscle of rats in chronic heart failure. J. Appl. Physiol. 87: 652-660, 1999.

54. Langsetmo, I., and D.C. Poole. $\dot{V} O_2$ recovery kinetics in the horse following moderate, heavy and severe exercise. J. Appl. Physiol. 86: 1170-1177, 1999.
55. Poole, D.C., W.L. Sexton, B.J. Behnke, C.S. Ferguson, K.S. Hageman and T.I. Musch. Respiratory muscle blood flows during physiological and chemical hyperpnea in the rat. J. Appl. Physiol., 88: 186-194, 2000.
56. Kindig, C.A., D. Quackenbush, L.L. Gallatin, H.H. Erickson, M.R. Fedde, and D.C. Poole. Cardiorespiratory impact of nitric synthase inhibition in the exercising horse. Respir. Physiol., 120: 151-166, 2000.
57. Kindig, C.A., H.H. Erickson, and D.C. Poole. Dissociation of exercise-induced pulmonary hemorrhage and pulmonary artery pressure via nitric oxide synthase inhibition. J. Equine Vet. Sci. 20: 579, 2000.
58. Poole, D.C., C.A. Kindig, G. Fenton, L. Ferguson, B.R. Rush, and H.H. Erickson. Effects of external nasal support on pulmonary gas exchange and EIPH in the horse. J. Equine Vet. Sci. 20: 579-585, 2000.
59. Bailey, J.K., C.K. Kindig, B.J. Behnke, T.I. Musch, G.W. Schmid-Schoenbein, and David C. Poole. Spinotrapezius muscle microcirculatory function: effects of surgical exteriorization. Am. J. Physiol. 279: H1331-1337, 2000.
60. Koga, S., T.J. Barstow, T. Shiojiri, T. Takaishi, T. Fukuba, N. Kondo, M. Shibasaki, and D.C. Poole. Effect of muscle mass on $\dot{V} O_2$ kinetics at the onset of work. J. Appl. Physiol. 90: 461-468, 2001.
61. Kindig, C.A., and D.C. Poole. Sarcomere length-induced alterations of capillary hemodynamics in rat spinotrapezius muscle: Vasoactive vs. passive control. Microvasc. Res. 61: 64-74, 2001.
62. Poole, D.C., C.A. Kindig, and B.J. Behnke. Effects of emphysema on diaphragm microvascular oxygen pressure. Am. J. Resp. Crit. Care Med. 163: 1081-1086, 2001.
63. Behnke, B.J., C.A. Kindig, T.I. Musch, S. Koga, and D.C. Poole. Dynamics of muscle microvascular oxygen pressure across the rest-exercise transition. Respir. Physiol. 126: 53-63, 2001.
64. Kindig, C.A., P. McDonough, H.H. Erickson, and D.C. Poole. Effect of L-NAME on oxygen up take kinetics during heavy intensity exercise in the horse. J. Appl. Physiol. 91: 891-896, 2001.
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