

CURRICULUM VITAE

Kyle Sunderland, Ph.D.

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EDUCATION

August 2013	PhD – University of Oklahoma, Department of Health and Exercise Science
December 2008	MA – California State University, Fresno, Department of Kinesiology
December 2006	BS – California State University, Fresno, Department of Kinesiology

PROFESSIONAL EXPERIENCE

2019-present	Lindenwood University Assistant Professor – School of Health Science
2013-2019	High Point University Assistant Professor – Department of Exercise Science
2009-2013	University of Oklahoma Doctoral Assistant – Department of Health and Exercise Science University Lecturer – Department of Health and Exercise Science

PROFESSIONAL MEMBERSHIPS

2010-present	American Physiological Society
2009-present	National Strength and Conditioning Association
2007-present	American College of Sports Medicine

TEACHING EXPERIENCE

Undergraduate Courses

Lindenwood University

EXS 38700 – Exercise Testing
EXS 38800 – Exercise Testing Lab

High Point University

EPY 2200 – Exercise Physiology
EPY 4800 – Exercise Metabolism
EPY 4825 – Cellular Exercise Physiology
EXS 2100 – Analysis and Critique of Scientific Literature
EXS 3750 – Strength and Conditioning
PHS 2060 – Human Physiology

University of Oklahoma

HES 3873 – Principles of Personal Training
HES 3893 – Facts and Fallacies of Exercise and Nutrition

Graduate Courses

Lindenwood University

HP 57200 – Physiology of Exercise I: Metabolism, Endocrinology, and Biomarkers

RESEARCH

PEER-REVIEWED PUBLICATIONS (Most recent listed first)

Lyon ES, Rivera ME, Johnson MA, **Sunderland KL**, Vaughan RA. Actions of chronic physiological 3-hydroxyisobuterate treatment on mitochondrial metabolism and insulin signaling in myotubes. *Nutr Res*, epub. doi: 10.1016/j.nutres.2019.03.012

Johnson MA, Gannon NP, Schnuck JK, Lyon ES, **Sunderland KL**, Vaughan RA. Leucine, palmitate, or leucine/palmitate co-treatment enhances myotube lipid content and oxidative preference. *Lipids*, 53: 1043-1057. doi: 10.1002/lipd.12126

Schnuck JK, Gould LM, Parry HA, Johnson MA, Gannon NP, **Sunderland KL**, Vaughan RA. Metabolic Effects of Physiological Levels of Caffeine in Myotubes. *J Physiol Biochem*, 74: 35-45. doi: 10.1007/s13105-017-0601-1

Hegedus EJ, Hardesty KW, **Sunderland KL**, Hegedus RJ, Smoliga JM. A randomized trial of traditional and golf-specific resistance training in amateur female golfers: benefits beyond golf performance. *Phys Ther Sport*, 22: 41-53, 2016. doi: 10.1016/j.ptsp.2016.04.005

Schnuck JK, **Sunderland KL**, Gannon NP, Kuennen MR, Vaughan RA. Leucine stimulates PPAR β -dependent mitochondrial biogenesis and oxidative metabolism with enhanced GLUT4 content and glucose uptake in myotubes. *Biochimie*, 128: 1-7, 2016. doi: 10.1016/j.biochi.2016.06.009

Schnuck JK, **Sunderland KL**, Kuennen MR, Vaughan RA. Characterization of the metabolic effect of β -alanine on markers of oxidative metabolism and mitochondrial biogenesis in skeletal muscle. *J Exerc Nutrition Biochem*, 20: 24-41, 2016. doi: 10.20463/jenb.2016.06.20.2.5

Kerksick CM, Roberts MD, Dalbo VJ, **Sunderland KL**. Intramuscular phosphagen status and the relationship to muscle performance across the age spectrum. *Eur J Appl Physiol*, 116: 115-127, 2016. doi: 10.1007/s00421-015-3246-1

Sunderland KL, Roberts MD, Dalbo VJ, Kerksick CM. Aging and sequential resistance exercise bout effects on housekeeping gene mRNA expression in human skeletal muscle. *J Strength Cond Res*, 27: 1-7, 2013. doi: 10.1519/JSC.0b013e3182779830

Roberts MD, Dalbo VJ, **Sunderland KL**, Kerksick CM. Electrophoretic separation of myosin heavy chain isoforms using a modified mini gel system. *J Strength Cond Res*, 26: 3461-3468, 2012. doi: 10.1519/JSC.0b013e318270fcab

Sunderland KL, Tryggstad JB, Wang JJ, Teague AM, Pratt LV, Zhang SX, Thompson DM, Short KR. Pigment epithelium-derived factor (PEDF) varies with body composition and insulin resistance in healthy young people. *J Clin Endo Metab*, 97: E2114-2118, 2012. doi: 10.1210/jc.2012-1894

Dalbo VJ, Roberts MD, **Sunderland KL**, Poole CN, Stout JR, Beck TW, Bemben M, Kerksick CM. Acute loading and aging effects on myostatin pathway biomarkers in human skeletal muscle after three sequential bouts of resistance exercise. *J Gerontol A Biol Sci Med Sci*, 66: 855-865, 2011. doi: 10.1093/gerona/glr091

Sunderland KL, Greer F, Morales J. VO₂max and ventilatory threshold of trained cyclists are not affected by 28-day L-arginine supplementation. *J Strength Cond Res*, 25: 833-837, 2011. doi: 10.1519/JSC.0b013e3181c6a14d

Poole CN, Roberts MD, Dalbo VJ, **Sunderland KL**, Kerksick CM. Megalin and androgen receptor gene expression in young and old human skeletal muscle before and after three sequential exercise bouts. *J Strength Cond Res*, 25: 309-317, 2011. doi: 10.1519/JSC.0b013e318202e45d

Roberts MD, Dalbo VJ, **Sunderland K**, Poole C, Hassell SE, Kerksick CM. Myogenic mRNA markers in young and old human skeletal muscle prior to and following sequential exercise bouts. *Appl Physiol Nutr Metab*, 36: 96-106, 2011. doi: 10.1139/H10-090

Poole CN, Roberts MD, Dalbo VJ, Tucker PS, **Sunderland KL**, DeBolt ND, Billbe BW, Kerksick CM. The combined effects of exercise and ingestion of a meal replacement in conjunction with a weight loss supplement on body composition and fitness parameters in college-aged males and females. *J Strength Cond Res*, 25: 51-60, 2011. doi: 10.1519/JSC.0b013e3181fee4aa

Roberts MD, Dalbo VJ, **Sunderland KL**, Poole CN, Hassell SE, Bemben D, Cramer J, Stout J, Kerksick CM. IGF-1 splice variant and IGF-1 peptide expression patterns in young and old human skeletal muscle prior to and following sequential exercise bouts. *Eur J Appl Physiol* 110: 961-969, 2010. doi: 10.1007/s00421-010-1588-2

REFEREED ABSTRACTS/RESEARCH PRESENTATIONS

Mori GA, Casper EM, Dickson AR, **Sunderland KL**. Aerobic and anaerobic parameters of a three-minute all-out test are associated with rowing performance. *Annual American College of Sports Medicine Meeting*. Minneapolis, MN. May 29-June 2, 2018.

Parry HA, Vaughan RA, **Sunderland KL**. Osteocalcin Does Not Increase Insulin Sensitivity or Mitochondrial Biogenesis in Palmitate Treated C2C12 Myotubes. *Annual American College of Sports Medicine Meeting*. Denver, CO. May 30-June 3, 2017.

Schnuck JK, **Sunderland KL**, Gannon NP, Kuennen MR, Vaughan RA. Leucine stimulates peroxisome proliferator activator receptors in skeletal muscle. *Annual American College of Sports Medicine Meeting*. Boston, MA. May 31-June 4, 2016.

Szymanski MC, **Sunderland KL**, Vaughan RA, Kuennen MR. Six days of mild heat stress reduces inflammation and carbohydrate metabolism bias in C2C12 myotubes. *Annual American College of Sports Medicine Meeting*. Boston, MA. May 31-June 4, 2016.

Parry HA, Vaughan RA, Kuennen MR, **Sunderland KL**. Osteocalcin does not induce regulators of insulin signaling or mitochondrial biogenesis in vitro. *Annual Meeting of the Southeast Chapter of the American College of Sports Medicine*. Greenville, SC. February 18-20, 2016.

Schnuck JK, **Sunderland KL**, Gannon NP, Kuennen MR, Vaughan RA. Leucine stimulates peroxisome proliferator activator receptors in skeletal muscle. *Annual Meeting of the Southeast Chapter of the American College of Sports Medicine*. Greenville, SC. February 18-20, 2016.

Szymanski M, Patton M, **Sunderland KL**, Vaughan RA, Kuennen MR. Repeated mild heat stress reduces inflammatory signals carbohydrate metabolism bias in C2C12 myotubes. *Annual Meeting of the Southeast Chapter of the American College of Sports Medicine*. Greenville, SC. February 18-20, 2016.

Schnuck JK, **Sunderland KL**. Effect of caffeine dose on postural stability. *Annual American College of Sports Medicine Meeting*. San Diego, CA. May 26-30, 2015.

Hardesty KW, Fisher A, Smoliga JM, **Sunderland KL**, Hegedus RJ, Hegedus EJ. A comparison of 10 weeks of functional versus traditional resistance training in amateur female golfers. *Annual American College of Sports Medicine Meeting*. San Diego, CA. May 26-30, 2015.

Farina KA, Zambito AR, **Sunderland KL**, Smoliga JM. Influence of unweighting on muscle oxygenation and VO₂ during running on a lower-body positive-pressure treadmill. *Annual American College of Sports Medicine Meeting*. San Diego, CA. May 26-30, 2015.

Sunderland KL, Lantis DJ, Farrell III JW, Barton MA, Larson RD, Bemben MG, Short KR. Influence of exercise on the temporal response of serum osteocalcin following glucose intake. *Annual American College of Sports Medicine Meeting*. Orlando, FL. May 27-31, 2014.

Herda TJ, Walter AA, Costa PB, **Sunderland KL**, Poole CN, Valdez AM, Wyatt CN, Kirby TJ, Dib PP, Kerksick CM, Cramer JT. Differences in the mechanomyographic versus force relationship and myosin heavy chain isoform content between young and old. *Annual National Strength and Conditioning Association Meeting*. Las Vegas, NV. July 6-9, 2011.

Sunderland K, Greer F, Torok Z. Multiple sprint performance and Wingate measures following acute caffeine ingestion. *Annual National Strength and Conditioning Association Meeting*. Orlando, FL. July 14-17, 2010.

Sunderland KL, Roberts MD, Dalbo VJ, Poole CN, Crane J, Tarnopolsky MA, Kerksick CM. Effects of aging on intramuscular ATP and creatine. *Annual National Strength and Conditioning Association Meeting*. Orlando, FL. July 14-17, 2010.

Poole CN, Roberts MD, Dalbo VJ, **Sunderland KL**, Kerksick CM. The discovery of a novel gene in human skeletal muscle with implication to steroid cellular transport. *Annual National Strength and Conditioning Association Meeting*. Orlando, FL. July 14-17, 2010.

Herda TJ, Walter AA, Costa PB, Ryan ED, Hoge KM, Roberts MD, Dalbo VJ, **Sunderland KL**, Poole CN, Kerksick CM, Cramer JT. Difference in the mechanomyographic amplitude versus force relationships between young and old during isometric ramped muscle actions. *Annual National Strength and Conditioning Association Meeting*. Orlando, FL. July 14-17, 2010.

Sunderland KL, Poole CN, Roberts MD, Dalbo VJ, Kerksick CM. Housekeeping gene analysis in human skeletal muscle following sequential exercise bouts: an age comparison. *Annual American College of Sports Medicine Meeting*. Baltimore, MD. June 2-5, 2010.

Roberts MD, Dalbo VJ, **Sunderland KL**, Poole CN, Hassell SE, Kerksick CM. Effects of human aging on MGF and CYCLIN D1 expression after three resistance exercise bouts. *Annual American College of Sports Medicine Meeting*. Baltimore, MD. June 2-5, 2010.

Poole CN, Roberts MD, Dalbo VJ, **Sunderland KL**, Hassell SE, Kerksick CM. Effects of human aging on CDK4, P21Cip1, P27Kip1, and MyoD expression after three resistance exercise bouts. *Annual American College of Sports Medicine Meeting*. Baltimore, MD. June 2-5, 2010.

MANUSCRIPTS IN REVIEW/PREPARATION

Parry HA, Vaughan RA, **Sunderland KL**. Uncarboxylated osteocalcin does not increase insulin sensitivity and regulators of mitochondrial biogenesis in C2C12 myotubes. In revision at *J Physiol Biochem*

Mori GA, Casper EM, Dickson AR, **Sunderland KL**. Utilizing a three-minute all-out rowing test to predict 2000-m ergometer performance time. *In preparation*

Dickson AR, Mori GA, Casper EM, **Sunderland KL**. Physiological responses to an adapted sweep-pull rowing ergometer in collegiate club rowers. *In preparation*

Mori GA, Brindle RA, Trudeau CG, **Sunderland KL**. Differences in application of forces at the foot at different intensities of rowing. *In preparation*

Hope M, McGill C, **Sunderland KL**. Caffeine does not affect critical power measured by the three-minute all-out test in college students. *In preparation*

Rivera ME, Lyon ES, Johnson MA, **Sunderland KL**, Vaughan RA. Effect of valine on myotube metabolism and insulin sensitivity. *In preparation*

Sunderland KL, Lantis DJ, Farrell III JW, Barton MA, Larson RD, Bembem MG, Short KR. Influence of exercise on the temporal response of serum osteocalcin following glucose intake. *In preparation*

BOOK CHAPTERS

Marin MT, **Sunderland KL**, Dasari P and Short KR. Cardiometabolic Impact of Childhood Obesity and the Potential Role of Exercise. *Childhood Obesity: Causes, Management and Challenges*, NOVA Science Publishers, 2013.

Sunderland KL and Kerksick CM. Postexercise Nutrient Timing in Endurance Activity. *Nutrient Timing: Metabolic Optimization for Health, Performance, and Recovery*, CM Kerksick, editor, CRC Press, 2011.

SERVICE AND CERTIFICATIONS

INSTITUTIONAL SERVICE

2015-2019 Pre-medical advisor
2015-2019 Honorary Class Counselor for Class of 2018
2015-2016 University Institutional Biosafety Committee
2014-2015 Exercise Physiology search chair
2014-2019 University Athletic Committee
2013-2019 SHS Research Committee

PROFESSIONAL SERVICE

2016-present Abstract review for annual meeting of the American College of Sports Medicine
2016 Jones and Bartlett Learning: Physiology book review
Ad Hoc reviewer: Diabetes, Obesity, and Metabolism; Journal of Endocrinology, Diabetes, and Obesity; Physical Therapy Reviews; Physiotherapy; Phytotherapy Research

PROFESSIONAL MEMBERSHIPS

2010-present National Strength and Conditioning Association
2007-present American College of Sports Medicine

CERTIFICATIONS

2019 American Heart Association – Basic Life Support

FUNDING SUPPORT

FUNDED

2010 Title: Effects of creatine on glycogen content during high-intensity exercise
Agency: National Strength and Conditioning Association (Graduate Student Grant)
Total costs (direct): \$10,000
Role: PI

NOT FUNDED

2017 Title: Physiological testing of rowers using a modified rowing ergometer
Agency: National Strength and Conditioning Association (Young Investigator Grant)
Total costs (direct): \$13,842
Role: PI