

Andrew R. Creer, Ph.D.

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Education

Doctor of Philosophy Human Bioenergetics, Ball State University, 2004
Master of Science Exercise Science, Brigham Young University, 2001
Bachelor of Science Physical Education (Pre-PT emphasis), Utah State University, 1998

Professional Experience

2014 to present *Exercise Science Program Coordinator, Associate Professor*
Department of Exercise Science and Outdoor Recreation
Utah Valley University

2008 to 2014 *Exercise Science Program Coordinator, Assistant Professor*
Department of Exercise Science and Outdoor Recreation
Utah Valley University

2006 to 2008 *Health Promotion Program Coordinator, Assistant Professor*
Department of Health, Physical Education, and Recreation,
South Dakota State University

2004 to 2006 *Post-Doctoral Research Fellowship*
Human Performance Laboratory,
Ball State University

Teaching

Teaching Experience

Utah Valley University

- Advanced Sports Nutrition F, S
- Exercise Physiology (Lecture) F, S, Su
- Exercise Physiology (Lab) F, S, Su 2008-12
- Research Methods F, S 2008-11
- Ethical Concerns in PE & Rec F, S 2008-09

South Dakota State University

- Exercise Physiology (Lecture) F 2006, 2007
- Advanced Exercise Physiology (Laboratory) F 2006, 2007
- Exercise Testing and Prescription (Lecture) S 2007, 2008
- Clinical Exercise Physiology (Lecture) S 2007, 2008
- Epidemiology (Internet) Su 2008
- Athlete Profiling (Lecture) Su 2008

Ball State University

- Physiology of Exercise (Lecture) F 2005, F 2004, F 2003, S 2003
- Physiology of Exercise (Laboratory) S 2004, F 2002
- Advanced Exercise Physiology (Laboratory) S 2004, S 2005

Brigham Young University

- Exercise Physiology (Laboratory) W 2000
- Beginning Golf (Instructor) S 2000, S 2001
- Beginning Racquetball (Instructor) S 2001, W 2001, F 2000, S 2000, W 1999, F 1999
- Intermediate Racquetball (Instructor) S 2001, W 2001, F 2000, S 2000
- Beginning Swimming (Instructor) S 2001, W 2001, F 2000, S 2000, W 1999, F 1999
- Intermediate Swimming (Instructor) W 2001, F 2000, S 2000, W 2000
- Adaptive Swimming (Instructor) W 2001

Honors & Awards

Utah Valley University

- College of Science and Health Dean's Award of Excellence-Service, 2015-16
- Student Athlete Educator of the Year, 2014-15

South Dakota State University

- Jackrabbit Thanking Outstanding People Award, 2007
- Graduate Faculty Status, 2007

Ball State University

- Graduate Faculty Status, 2005
- Post Doctoral Fellowship, 2004 to 2006
- Doctoral Fellowship, 2001 to 2004

Brigham Young University

- Graduate Teaching Assistantship, 1999 to 2001
- Graduate Research Assistantship, 1999 to 2001

Scholarship

Scientific Publications

Gibby J, Njeru D, Cvetko S, Heiny E, **Creer A**, and Gibby W. Whole-Body Computed Tomography-Based Body Mass and Body Fat Quantification: A Comparison to Hydrostatic Weighing and Air Displacement Plethysmography. *Journal of Computer Assisted Tomography* 41: 302-308, 2017.

Trappe S, Costill D, Gallagher P, **Creer A**, Peters JR, Evans H, Riley DA, and Fitts RH. Effectiveness of Exercise Countermeasures for Protecting Muscle on the International Space Station (ISS). *Aviation, Space, and Environmental Medicine* 81: 1050-52, 2010.

Fitts R, Trappe S, Costill D, Gallagher P, **Creer A**, Colloton P, Peters J, Romatowski J, Bain J, and Riley D. Prolonged space flight-induced alterations in the structure and function of human skeletal muscle fibres. *J Physiol* 588: 3567-92, 2010.

Trappe S, Costill D, Gallagher P, **Creer A**, Peters JR, Evans H, Riley DA, Fitts RH. Exercise in space: human skeletal muscle after 6 months aboard the International Space Station. *J Applied Physiol* 106: 1159-68, 2009.

Trappe S, **Creer A**, Minchev K, Slivka D, Louis E, Luden N, Trappe T. Human soleus single muscle fiber function with exercise or nutrition countermeasures during 60 days of bed rest. *Am J Physiol Regul Integr Comp Physiol* 294: 939-947, 2008.

Trappe S, **Creer A**, Slivka D, Minchev K, Trappe T. Single muscle fiber function with concurrent exercise or nutrition countermeasures during 60 days of bed rest in women. *J Appl Physiol* 103: 1242-50, 2007.

Trappe S, Harber M, **Creer A**, Gallagher P, Slivka D, Minchev K, and Whitsett D. Single muscle fiber adaptations with marathon training. *J Appl Physiol* 101: 721-727, 2006.

Creer A, Gallagher P, Slivka D, Jemiolo B, Fink W, and Trappe S. Influence of muscle glycogen availability on ERK1/2 and Akt signaling following resistance exercise in human skeletal muscle. *J Appl Physiol* 99: 950-956, 2005.

Gallagher P, Harber M, **Creer A**, Mazzetti S, Trappe T, Alkner B, Tesch P, and Trappe S. Effects of a resistance-training countermeasure to prolonged bedrest on single fiber myosin heavy chain distribution. *Acta Physiol Scand* 185: 61-69, 2005.

Yang Y, **Creer A**, Jemiolo B, and Trappe S. Time course of myogenic and metabolic gene expression in response to acute exercise in human skeletal muscle. *J Appl Physiol* 98: 1745-1752, 2005.

Harber M, Gallagher P, **Creer A**, Minchev K, and Trappe S. Single muscle fiber contractile properties during a competitive season in male runners. *Am J Physiol* 287: R1124-1131, 2004.

Creer A, Ricard M, Conlee R, Hoyt G, and Parcell A. Neural, metabolic, and performance adaptations to four weeks of high intensity sprint-interval training in trained cyclists. *Int J Sports Med* 25: 92-98, 2004.

Chinevere T, Parcell A, Sawyer R, **Creer A**, and Conlee R. Effects of carbohydrate and L-tyrosine ingestion on endurance exercise performance. *J Appl Physiol* 93: 1590-1597, 2002.

Scientific Presentations

The Effect of Graduated Compression Garments on Foot Volume During Running. *American College of Sports Medicine*, June 2016, Boston, MA. (*Med Sci Sports and Exerc* 48(5): S467, 2016).

The Effect of Graduated Compression Garments on Foot Volume During Running. *Southwest American College of Sports Medicine*, October 2015, Costa Mesa, CA.

Effect of Carbohydrate Ingestion on Basketball Performance in Competitive Players. *American College of Sports Medicine*, May 2015, San Diego, CA (*Med Sci Sports and Exerc* 47(5): S871, 2015).

Effect of Carbohydrate Ingestion on Basketball Performance in Competitive Players. *Southwest American College of Sports Medicine*, October 2014, Costa Mesa, CA.

Effect of Initial Training Phase on Body Composition, Strength, and Power Characteristics of Collegiate Wrestlers, *American College of Sports Medicine*, June 2014, Orlando, FL (*Med Sci Sports and Exerc* 46(5): S57-58, 2014.)

Metabolic Comparison Between Barefoot, Zero-Drop Shoe, and Standard Shoe Running in Well-Trained Runners, *American College of Sports Medicine*, June 2012, San Francisco, CA (*Med Sci Sports and Exerc* 44(5): S388, 2012.)

The Effect of Compression Garments on Recovery and Running Performance in Collegiate Distance Runners. *Southwest American College of Sports Medicine*, October 2010, San Diego, CA.

The Effect of Maximal Sprint Training on Measures of Endurance Performance. *American College of Sports Medicine*, May 2009, Seattle, WA. (*Med Sci Sports and Exerc* 41(5): S498-499, 2009.)

The Influence of Exercise and Nutrition Countermeasures During 60 d of Bedrest in Women: Vastus Lateralis Single Fiber Function. *Experimental Biology*, April 2006, San Francisco, CA. (*FASEB J* 20(5): LB33, 2006)

Influences of Exercise on Human Single Muscle Fiber Function with Long-Term Bed Rest. *Bioastronautics Investigators' Workshop*, January 2005, Galveston, TX.

Influence of Muscle Glycogen on Mitogenic Responses to Resistance Exercise. *Integrative Physiology of Exercise Meeting*, October 2004, Austin, TX.

Marathon run training alters single muscle fiber MHC distribution. *American College of Sports Medicine*, June 2004, Indianapolis, IN. (*Med Sci Sports and Exerc* 36(5): S339, 2009.)

Time course of gene activation in response to moderate intensity running. *Experimental Biology*, April 2004, Washington D.C.

Mitogenic signaling responses in human skeletal muscle with intense contractions. *Experimental Biology*, April 2004, Washington D.C.

Effects of short term, high intensity sprint training on experienced cyclists. *American College of Sports Medicine*, June 2002, St. Louis, MO. (*Med Sci Sports and Exerc* 34(5): S27, 2002.)

Peer Reviewed Abstracts

Scott Y, Kainalu N, Cram T, Bohne M, and **Creer A**. Performance Factors Related to Throwing Distance in Collegiate Track Athletes. *Med Sci Sports and Exerc* 50(5): S798, 2018.

Christensen J, Standifird T, **Creer A**, Powell D, Williams L, Dial M, and Ames S. Joint Moments in Lower Extremities During Incline Running at Isoefficiency Speed. *American Society of Biomechanics, Rocky Mountain*, April 2018, Estes Park, CO.

Williams L, Standifird T, **Creer A**, Powell D, Christensen J, Dial M, and Bryson Carrier. Impact Peak and Loading Rate During Incline Running at Isoefficiency Speed. *American Society of Biomechanics, Rocky Mountain*, April 2018, Estes Park, CO.

Slack J, Valgardson K, Bohne M, and **Creer A**. Comparing Balance and Power to Baseball Throwing Velocity in Collegiate Baseball Pitchers. *Med Sci Sports and Exerc* 49(5): S3378, 2017.

Russell A, Peterson S, Bohne M, Standifird T, and **Creer A**. Relationship Between Body Fat and Selected Gait Parameters. *Med Sci Sports and Exerc* 49(5): S2606, 2017.

Creer A, Soelberg K, Peterson S, Hepworth D, and Bohne M. The Effect of Graduated Compression Garments on Foot Volume During Running. *Med Sci Sports and Exerc* 48(5): S467, 2016.

Enos K, Aird B, and **Creer A**. Effect of Carbohydrate Ingestion on Basketball Performance in Competitive Players. *Med Sci Sports and Exerc* 47(5): S871, 2015.

Creer A, Bohne M, Sawyer R, Garner A, Schmalhaus M, Allphin N, and Slack J. Effect of Initial Training Phase on Body Composition, Strength, and Power Characteristics of Collegiate Wrestlers. *Med Sci Sports and Exerc* 46(5): S57-58, 2014.

LaSalle T, Bohne M, and **Creer A**. Effect of Varus Wedge Utilization on Pedaling Mechanics in Trained Cyclists. *Med Sci Sports and Exerc* 45(5): S566, 2013.

Bohne M, Roach K, Allphin N, **Creer A**, and Slack J. Electromyographical Analysis of Barefoot, Minimalist, Zero-Drop, and Standard Running Shoes. *Med Sci Sports and Exerc* 45(5): S355, 2013.

Creer A, Roach K, Rust N, Slack J, and Bohne M. Metabolic Comparison Between Barefoot, Zero-Drop Shoe, and Standard Shoe Running in Well-Trained Runners. *Med Sci Sports and Exerc* 44(5): S388, 2012.

Bohne M, Roach K, Tranchell J, Wartena J, Slack J, and **Creer A**. Kinematic Comparison of Treadmill Running While Barefoot and in Standard and Zero-Drop Shoes. *Med Sci Sports and Exerc* 44(5): S351, 2012.

Roach K, Tranchell, J, Wartena J, **Creer A**, and Bohne M. Biomechanical Comparison of Treadmill Running While Barefoot and in Standard and Zero-Drop Shoes. *National Conference for Undergraduate Research*, April 2012, Weber State University, Ogden, UT.

Moody D, Houle S, Adamson K, and **Creer A**. The Effect of Compression Garments on Recovery and Running Performance in Collegiate Distance Runners. *Med Sci Sports and Exerc* 43(5): S539, 2011.

Terry P, Parcell A, and **Creer A**. Effectiveness of Wearing Compression Tights During Short Recovery Periods on Subsequent Cycling Performance. *Med Sci Sports and Exerc* 42(5): S10-11, 2010.

Thume M, **Creer A**, Hansen E, and Vukovich M. The Effect of Maximal Sprint Training on Measures of Endurance Performance. *American College of Sports Medicine*, May 2009, Seattle, WA. (*Med Sci Sports and Exerc* 41(5): S498-499, 2009.)

Vukovich M, Bjerke K, Thum M, Gauer A, and **Creer A**. Insulin-like Growth Factor 1 (IGF-I) and Insulin-like Growth Factor Binding Protein 1 and 3 (IGFBP-1, -3) During a Competitive College Cross-country Season. *Med Sci Sports and Exerc* 41(5): S338-339, 2009.

Fitts R, Romatowski J, Peters J, Trappe S, Gallagher P, **Creer A**, Costill D, and Riley D. Human skeletal muscle responses to prolonged spaceflight: functional capacity of single slow and fast fibers. *FASEB J* 21(6): 771.15, 2007.

Trappe S, **Creer A**, Minchev K, Slivka D, Burd N, Louis E, Lee G, and Trappe T. The influence of exercise or nutrition countermeasure during 60-D of bed rest in women: Thigh and calf muscle responses. *Bioastronautics Investigators' Workshop*, February 2007, Galveston, TX.

Conley T, **Creer A**, Jemiolo B, Yang Y, Slivka D, Raue U, and Trappe S. The Influence of Training Status on ERK and Akt Phosphorylation in Human Skeletal Muscle. *Med Sci Sports and Exerc* 38(5): S546, 2006.

Slivka D, **Creer A**, Minchev K, Trappe T, and Trappe S. The Influence of Exercise and Nutrition Countermeasures During 60 d of Bedrest in Women: Soleus Single Fiber Function. *FASEB J* 20(5): LB33, 2006.

Minchev K, **Creer A**, Slivka D, Trappe T, and Trappe S. The Influence of Exercise and Nutrition Countermeasures During 60 d of Bedrest in Women: View of Myocellular Contractile Properties. *FASEB J* 20(5): LB34, 2006.

Gallagher P, **Creer A**, Jemiolo B, and Trappe S. No Change in AMPK Phosphorylation (Thr₁₇₂), Despite Significant Decreases in Total Adenine Nucleotide Levels in Human Skeletal Muscle. *FASEB*, April 2005, San Diego, CA.

Harber M, **Creer A**, Trautmann J, and Trappe S. Single muscle fiber function in male distance runners. *Med Sci Sports and Exerc* 35(5): S384, 2003.

Harber M, Gallagher P, **Creer A**, Mazzetti S, Trappe T, Alkner B, Tesch P, and Trappe S. Human single muscle fiber morphology with 84-d bedrest and resistance exercise. *FASEB J* 17(5): 598.19, 2003.

Chinevere T, Parcell A, Sawyer R, **Creer A**, and Conlee R. Effects of carbohydrate and L-tyrosine ingestion on endurance exercise performance. *Med Sci Sports and Exerc* 34(5): S3, 2002.

Taylor E, Parcell A, **Creer A**, Sawyer R, Guthrie M, and Eyestone E. The effect of work and rest distribution on lactate production during interval training. *Med Sci Sports and Exerc* 34(5): S275, 2002.

Invited Reviewer for Professional Journals and Publications

- Journal of Sports Sciences
- Agro Food Industry High-tech
- Wilderness and Environmental Medicine
- Military Medicine
- Lippincott Williams & Wilkins
- Applied Physiology, Nutrition, and Metabolism
- European Journal of Applied Physiology
- International Journal of Sports Medicine
- Journal of Strength and Conditioning
- Medicine & Science in Sports & Exercise
- McGraw Hill Publishers

Research Awards

- Presidential Faculty Scholarly Grant (\$2000), 2011-2012
- Presidential Faculty Scholarly Grant (\$900), 2009-2010
- Presidential Faculty Scholarly Grant (\$2000), 2008-2009
- South Dakota Human Services Tobacco Prevention Grant (\$25,000), 2008-2009
- South Dakota Human Services Tobacco Prevention Grant (\$25,000), 2007-2008
- First Endurance research grant (\$2500), 2007
- South Dakota State University Start-up award (\$2500), 2006

Professional Organization Memberships

- American College of Sports Medicine
- Southwest Chapter of the American College of Sports Medicine

Service

Professional & Academic Committees

Utah Valley University

- UVU Exercise Science Laboratory Director, 2017 to present
- UVU Athletic Advisory Board, 2015 to present
- UVU Exercise Science & Outdoor Recreation department RTP committee, 2014 to present
- UVU Department of Exercise Science & Outdoor Recreation Scholarship Committee, 2009 to present

- UVU Institutional Review Board Chair, 2012 to 2017
- UVU Scholarly and Creative Activities Council, 2012-2015
- UVU Institutional Review Board Standard Operating Procedures Committee Chair, 2011-12
- UVU Institutional Review Board, 2010 to present
- UVU College of Health & Science Scholastic Appeals Committee, 2009 to 2012
- UVU Faculty-Staff Campaign, 2008-09

South Dakota State University

- South Dakota State University Academic Assessment Committee, 2007
- South Dakota State University graduate committee chair, 2007
- South Dakota State University graduate committee service, 2007

Ball State University

- Student Advisory Committee, 2003 to 2004
- Institutional Review Board, 2003 to 2004
- Graduate Education Committee, 2002 to 2003

Professionally Related Volunteer Work

- Honors thesis faculty Chair, Spring 2017
- Honors thesis faculty chair, Fall 2015
- Student Undergraduate Research Fellowship advisor, Summer 2015
- Student Undergraduate Research Fellowship advisor, Summer 2013
- Spanish Fork Mountain Bike Trail Committee Chair, 2013-present
- Training and nutritional consultant for the SBR cycling team, 2012-14
- Scholarly and Creative Opportunities Program advisor, Summer 2010
- Training consultant for the Utah Hand Cycling team, 2009-10
- Scholarly and Creative Opportunities Program advisor, Summer 2009
- Nutritional consultant for the UVU Athletics, 2008 to present
- Club Advisor/Coach, Utah Valley University Cycling Club, 2008 to present
- City of Brookings, SD Community Wellness Coordinator, 2007-2008
- City of Brookings, SD Parks and Recreation Board member, 2007-2008

Scholarly Community Activities and Lectures

- Nutrition for Runners; IHC Runners Clinic; April 2017.
- Nutrition for Mountain Bike Racing; SBR Sports; August 2012.
- Nutrition for Ironman Distance Triathlons; Elevate Fitness, July 2012.
- Influence of Space Flight on Human Skeletal Muscle Structure & Function; Southern Utah University, March 2010.
- Practical Uses for Mathematical Concepts; Utah Valley University *Empowering Your Tomorrow* boy's conference, January 2009.
- The Importance of Diet and Recovery on Performance in Track Athletes; Utah Valley University track and field team, January 2009.

- Cycling basics for a successful triathlon; South Dakota State University, March 2008.
- Nutrition for Adolescents; Jackrabbit Fastbreak Basketball Clinic, South Dakota State University, February 2008.
- Triathlon Training Series: Overtraining; South Dakota State University, March 2007.
- Triathlon Training Series: Bike fit; South Dakota State University, January 2007.