

Raymond W. Thompson

Clinical Assistant Professor
Department of Exercise Science,
Arnold School of Public Health
University of South Carolina

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Education:

Ph.D. Exercise Science August, 2007
The University of South Carolina, Columbia

Dissertation Title: Role of IL-6 On Cardiac Enlargement In a Mouse Model of Colorectal Cancer

M.A. Exercise Science
The University of Georgia, Athens, 1997.

Thesis Title: Effects of Environmental Temperature On Anaerobic Metabolism During Submaximal Exercise

B.S. Exercise Science and Corporate Wellness
Southern Illinois University, Carbondale, 1991.

Professional Experience:

University of South Carolina, Columbia SC, 2007 – Present

Clinical Assistant Professor – Instruct and direct undergraduate Anatomy & Physiology I and II, undergraduate exercise physiology and muscle physiology, and graduate laboratory courses in Exercise Science; supervise teaching assistants for courses. Assist with recruitment and advisement of graduate students to the graduate program. Generate and evaluate Master of Science comprehensive exams.

University of South Carolina, Columbia SC, 2004 - 2007

Research Associate – Supervise the Clinical Research Complex and the Exercise Biochemistry Laboratories, perform routine analyses, train students in clinical biochemistry assays, as well as supervise adult fitness facility, equipment maintenance and repair. Coordinate Cardiovascular Screening Program, train students to conduct maximal and submaximal graded exercise tests including electrode preparation, exercise blood pressure, and test termination criteria. Arrange materials and teach undergraduate and graduate courses.

University of South Carolina, Columbia, SC, 1998 – 2004

Laboratory Manager – Responsible for various aspects of maintaining multiple functioning laboratories including ordering supplies, maintenance and repair equipment, and train students in clinical biochemistry assays; as well as supervise adult fitness facility.

Safety Officer – Responsible for ensuring all laboratory facilities meet basic OSHA regulations; conduct or arrange training sessions for students and faculty for Bloodborne Pathogens, Animal Handling, Radiation Safety Training, Laboratory Safety, and Proper Use of Equipment.

Research Assistant – Integrative Muscle Biology Laboratory – Applied molecular and biochemical techniques to solving muscle related questions.

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Professional Experience (continued):

Teaching Assistant – Conducted graduate and undergraduate exercise physiology laboratories, Supervised and trained exercise physiology laboratory teaching assistants; Arranged and taught complete sections of lecture material for undergraduate and graduate courses.

The Cooper Institute for Aerobics Research, Dallas, TX, 1994 – 1998

Research Associate – Conducted resting, submaximal and maximal human health and performance tests including respiratory gas analysis and electrocardiogram tracings, resting metabolic analyses; trained staff and work-study students; study design protocol design, implemented use of activity monitors, data analysis, and presented papers at national conferences.

Laboratory Coordinator – Supervised research associates and work-study students; Assisted in study design and data analysis; written reports, and present papers at national conferences.

Courses Taught:

- EXSC 223 – Human Anatomy and Physiology I
- EXSC 223L – Human Anatomy and Physiology I Lab
- EXSC 224 – Human Anatomy and Physiology II
- EXSC 224L – Human Anatomy and Physiology II Lab
- EXSC 341A – Health Fitness Practicum
- EXSC 499 – Independent Study
- EXSC 530 – The Physiology of Muscular Activity
- EXSC 669 – Skeletal Muscle Physiology: Form and Function
- EXSC 780 – Physiology of Exercise
- EXSC 781 – Physiology, Exercise and Disease
- EXSC 742 – Clinical Exercise Testing
- EXSC 743 – Laboratory Measurements for Exercise Testing
- EXSC 790 – Independent Study
- EXSC 798 – Project in Exercise Science

Courses Created:

- EXSC 223L – Human Anatomy and Physiology I Lab
- EXSC 224L – Human Anatomy and Physiology II Lab
- EXSC 669 – Skeletal Muscle Physiology: Form and Function
- EXSC 742 – Clinical Exercise Testing
- EXSC 743 – Laboratory Measurements for Exercise Testing

Undergraduate Thesis, Chair:

Honors Undergraduate Student – Mentor and Thesis Chair. Maria Fernanda Jaimes; Quadriceps femoris muscle angles, secondary to lower limb deformities, as indicators of force, *2014*.

Honors Undergraduate Student – Mentor and Thesis Chair. Katie Hunt; The Effect of Pedal Rate on Ventilatory Response and Skeletal Muscle Activation during Exercise, *2014*.

Honors Undergraduate Student – Mentor and Thesis Chair. Dustin Smith; The affect of frequency of movement on the ventilatory kinetics at the onset of exercise, *2013*.

Honors Undergraduate Student – Mentor and Thesis Chair. Kate Hubble; Common Running Injuries and their Prevention, *2011*

Honors Undergraduate Student - Committee member; reviewed and edited Honors Thesis. *2007*.

Master of Science Thesis: Committee Member

Committee Member – Sarah Depaep; TBD

Committee Member – Adam Harrison; Exercise and Anodal Transcranial Direct Current Stimulations (tDCS) as Primers for Performance in Off-Hand Motor Tasks, *2014*

Committee Member – Joshua Mangum; The effect of cancer cachexia progression and intervention of exercise on skeletal muscle metabolic properties in mice, *2013*

Committee Member – Lauren Vervaeke; The effects of a high fat diet on mitochondrial biogenesis and glycogen storage in the brain, *2013*

Committee Member – Scott Blanchette; Joint Action and Optimal Cooperation, *2013*

Committee Member – Anna Gelbrich; Association between walking speed and cognitive executive function in community dwelling older adults, *2012*

Committee Member – Billy Ray; Behavioral and functional brain correlates of developmental coordination disorder: A case-control study, *2010*

Master of Science Project: Director

Valerie Swagger – The effects of resistance training on strength and muscle mass in older adults, *2014*.

Jessica Decker - Influence of fatigue on muscular activation during the landing phase of a jump, *2013*

Ryan Ashworth – Survey: Standup Paddle Boarding Injury Prevalence, *2013*

Melissa Todd - The Effectiveness of the Cardiac Rehabilitation Program at Conway Medical Center in Conway South Carolina, *2013*

Marie Ray - Effects of myofascial rolling on the range of motion of the hip, *2012*

Marie Ray - Effects of myofascial rolling on the range of motion of the hip, *2012*

Molly Magoon - Cancer and Exercise Prescription, *2012*

Johannes Aartunn - Cancer and Physical Activity, *2012*

Mentor:

Undergraduate Student Summer Intern– Veterans Workforce Development Center – *2013*
Summer Research Internship

Masters Student – Trained student in basic laboratory techniques including the separation of proteins by SDS-PAGE and Western blotting, myosin gels for determination of relative

myosin isoform content, and in the determination of muscle fiber cross-sectional area. 2006-2007.

Biology Student Intern – Trained student in basic laboratory techniques plus RT-PCR, generated research question, collected data, and presented abstract. Summer 2004.

High School Student – Trained student in basic laboratory techniques including Western Blot analysis, generated research question, collected data, and presented abstract. Summer 2003.

Biology Student Intern – Trained student in basic laboratory techniques plus RT-PCR, generated research question, collected data, and presented abstract. Summer 2003.

High School Student – Trained student in basic laboratory techniques including Western Blot analysis, generated research question, collected data, and presented abstract. Summer 2002.

Biology Student Intern – Trained student in basic laboratory techniques including Western Blot analysis, generated research question, collected data, and presented abstract. Summer 2002.

Professional Service:

Undergraduate Program Task Force, Chair

Department of Exercise Science at the University of South Carolina, 1/2015 – present
The committee was tasked with developing 2 alternatives to the existing undergraduate program curriculum in Exercise Science.

Clinical Exercise Research Center Committee, Chair

Department of Exercise Science at the University of South Carolina, 12/2014 - present
The committee provide oversight to the management of the Clinical Exercise Research Center located in the Department of Exercise Science, and develop long-term plans for CERC capabilities.

Exercise Science Undergraduate Program Advisory Committee

Department of Exercise Science at the University of South Carolina 2012 to present.

Judge – Undergraduate Student Research Award Committee

Southeast American College of Sports Medicine 2011/12.

Judge – General Science, Region II Science & Engineering Fair

USC Central South Carolina, 2007, 2008, and 2009.

Senior Judge – General Science, Region II Science & Engineering Fair

USC Central South Carolina, 2010, 2011,2012, 2013 and 2014.

Judge – Junior Science and Humanities Symposium

USC South Carolina, 2007, 2008, 2009, 2010, 2011, 2012, 2013 and 2014.

Deans Student Advisory Committee

The University of South Carolina, Columbia, 1999 – 2000

Student Representative to the Southeast American College of Sports Medicine Chapter

January 2001 – January 2003

Chair, Student Award – Oral Presentations. Southeast American College of Sports Medicine 2002

Chair, Student Symposium: Southeast American College of Sports Medicine, 2002

Chair, Student Award – Oral Presentations. Southeast American College of Sports Medicine Student Award Symposium 2003

Chair, Student Symposium: ACSM Certification and Registration: New Options and Pathways for Career Opportunities. Southeast American College of Sports Medicine, 2003

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Chair, Tutorial: The Role of Nutritional Antioxidants in the Prevention of Muscle Damage.
Southeast American College of Sports Medicine, 2003

Grants/Contracts:

Magellan Scholar Award - University of South Carolina Office of Undergraduate Research. *Comparing the Opinions of Orthopedic Surgeons and Physical Therapists Regarding the Treatment of Meniscal Repairs.* Role: Co - Principal Investigator with Ashley Culler. Funding: \$3,000, Term: Not Funded

Magellan Scholar Award - University of South Carolina Office of Undergraduate Research. *Energy Expenditure During Low to Moderate Intensity Aerobic Activity with the Addition of Load.* Role: Co - Principal Investigator with Ron Doiron and Jacob Crouch. Funding: \$3,000, Term: Term: Not Funded

Magellan Mini-Grant - University of South Carolina Office of Undergraduate Research. *Energy Expenditure During Low to Moderate Intensity Aerobic Activity with the Addition of Load.* Role: Co - Principal Investigator with Ron Doiron and Jacob Crouch. Funding: \$1,000, Term: Term: Not Funded

Lexington County Fire Service - Validation of the Physical Fitness Assessment for Fire Suppression Personnel for the Lexington County Fire Service. Pending

Lexington County EMS - Validation of the Physical Fitness Assessment for Emergency Medical Service Personnel for the Lexington County EMS. Pending

Glenn/AFAR Scholarships for Research in the Biology of Aging. American Federation of Aging Research. Title: Effect of Aging on Inflammation During Skeletal Muscle Regeneration. 2002. \$5,000

Community Service:

Guest Coach, Women's Softball Team – Spring 2015

Guest Coach, Women's Volley Ball Team – Fall 2014

Guest Coach, Equestrian Team – Spring 2013

Community Service:

Columbia Running Club and Strictly Running. Spring 2006. Presentation to group of runners titled "VO₂max and Performance."

Dent Middle School. Fall 2004. Gave informal talk to 7th and 8th graders about Physical activity/exercise and heart disease.

Abstracts: Presented

Doiron, R.L., C.M. Schattinger, and **R.W. Thompson.** The Effect Of Cadence On Metabolic And Respiratory Measures During Incremental Cycle Ergometry To Max, Southeast American College of Sports Medicine 2/13/2015.

Doiron, R and **R.W. Thompson.** Pilot Study: Affect of Movement on Exercise Ventilation, Benedict College 7/25/2013

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Publications: Book Chapter

Durstine, J.L., **R.W. Thompson**, and B.T. Gordon. Chapter 19: Drawing Inferences and Logical Fallacies, American College of Sports Medicine Research Methods, *Submitted*.

Publications: Articles

Washington, T.A., Healey, J.M., **Thompson, R.W.**, Lowe, L.L., Carson, J.A. Lactate Dehydrogenase Regulation in Aged Skeletal Muscle: Regulation by Anabolic Steroids and Functional Overload. *Exp Gerontol*. 2014 May 14. pii: S0531-5565(14)00142-9. doi: 10.1016/j.exger.2014.05.003. (4 Citations)

Bandstra, E.R., **R.W. Thompson**, G.A. Nelson, S. Judex, J.S. Willey, M.A. Cairns, E. R. Benton, J.S. Willey, M.E. Vazquez, J.A. Carson, and T.A. Bateman. Changes in Bone and Muscle in Skeletally Mature Mice in Response to Simulated Galactic Cosmic Rays. *Rad Res*; 172(1):21-29, 2009. (22 Citations)

Thompson R.W., J.M. McClung, K.A. Baltgalvis, J.M. Davis, J.A. Carson. Modulation of overload-induced inflammation by aging and anabolic steroid administration. *Exp Gerontol*; 41(11):1136-1148, 2006. (36 Citations)

McClung J.M., K.A. Mehl, **R.W. Thompson**, L.L. Lowe, J.A. Carson. Nandrolone decanoate modulates cell cycle regulation in functionally overloaded rat soleus muscle. *Am J Physiol Regul Integr Comp Physiol*; 288(6):R1543-R1552, 2005. (41 Citations)

Washington T.A., J.M. Reecy, **R.W. Thompson**, L.L. Lowe, J.M. McClung, J.A. Carson. Lactate dehydrogenase expression at the onset of altered loading in rat soleus muscle. *J Appl Physiol*, 97(4):1424-1430 2004. (18 Citations)

McClung J.M., **R.W. Thompson**, L.L. Lowe, J.A. Carson. RhoA expression during recovery from skeletal muscle disuse. *J Appl Physiol*, 96(4):1341-8 2004. (23 Citations)

McClung, J.M., W.J. Lee, **R.W. Thompson**, L.L. Lowe, J.A. Carson. RhoA induction by functional overload and Nandrolone decanoate administration in rat skeletal muscle. *Pflugers Arch*. 447(3):345-355, 2003. (27 Citations)

Tudor-Locke, C., B.E. Ainsworth, M.C. Whitt, **R.W. Thompson**, C.L. Addy, and D.A. Jones. Ambulatory activity and simple cardiorespiratory fitness parameters at rest and submaximal exercise. *Can J Applied Physiol*, 28(5):699-709, 2003. (6 Citations)

Lee W.J., **R.W. Thompson**, J.M. McClung, J.A. Carson. Regulation of androgen receptor expression at the onset of functional overload in rat plantaris muscle. *Am J Physiol Regul Integr Comp Physiol*. 285(5):R1076-R1085, 2003. (47 Citations)

Carson, J.A., D.E. Culbertson, **R.W. Thompson**, R.A. Fillmore, W. Zimmer. Smooth muscle γ -actin promoter regulation by RhoA and serum response factor signaling. *Biochimica et Biophysica Acta*. 1628:133-139, 2003. (9 Citations)

Tudor-Locke, C., B.E. Ainsworth, **R.W. Thompson**, C.E. Matthews. Comparison of pedometer and accelerometer measures of free-living physical activity. *Med Sci Sports and Exerc*. 34(12):2045-2051, 2002. (330 Citations)

Matthews, C.E., B.E. Ainsworth, **R.W. Thompson**, Bassett, D. R. Jr. Sources of variance in daily physical activity levels as measured by an accelerometer. *Med Sci Sports and Exerc*. 34(8):1376-1381, 2002. (270 Citations)

- Tudor-Locke, C., B.E. Ainsworth, M.C. Whitt, **R.W. Thompson**, C.L. Addy, D.A. Jones. The relationship between pedometer-determined ambulatory activity and body composition variables. *Int J Obes Relat Metab Disord*. Nov; 25(11):1571-8, 2001. (217 Citations)
- Welk, G.J., **R.W. Thompson**, D.I. Galper. A temporal validation of scoring algorithms for the 7-day Physical Activity Recall. *Measurement in Physical Education and Exercise Science*. 5(3), 123-138, 2001. (12 Citations)
- Thompson, R.W.**, R.S Cooper, L.J Neff, W.P Bartoli, B.E Ainsworth. Physical activity and health among older South Carolinians. *J S C Med Assoc*. Jun; 97(6):237-41, 2001.
- Durstine, J.L., **R.W. Thompson**, K.L. Drowatzky, W.P. Bartoli. Leptin and Exercise: New directions. *Brit J Sports Med Br J Sports Med*. Feb;35(1):3-4, 2001. (15 Citations)
- Ainsworth, B.E., D.R. Bassett, Jr., S.J. Strath, A.M. Swartz, W.L. O'Brien, **R.W. Thompson**, D.A. Jones, C.A. Macera, and D. Kimsey. Comparison of three methods for measuring the time spent in physical activity. *Med Sci Sports Exerc* 32(9 Suppl) S457 – S464, 2000. (307 Citations)
- Welk, G.J., J.A. Differding, **R.W. Thompson**, S.N. Blair, J. Dziura, and P. Hart. The Utility of the Digi-Walker step counter to assess daily Physical activity patterns. *Med Sci Sports Exerc* 32(9 Suppl) S481-S488, 2000. (333 Citations)
- Welk, G.J., S.N. Blair, K. Wood, S. Jones, and **R.W. Thompson**. A comparative evaluation of three accelerometry-based physical activity monitors. *Med Sci Sports Exerc* 32(9 Suppl) S489–S497, 2000. (364 Citations)
- Durstine, J.L. and **R.W. Thompson**. Exercise modulates blood lipids and lipoproteins: a great explanation and exercise plan. *Health Fitness J* 4(4):7-12, 2000. (Citations: 3)
- Dishman, R.K., Y. Nakamura, M.E. Garcia, **R.W. Thompson**, A.L. Dunn, S.N. Blair. Heart rate variability, trait anxiety, and perceived stress among physically fit men and women. *Int J Psychophysiol* 37(2):121-133, 2000. (302 Citations)
- Sloniger M.A., K.J. Cureton, D.I. Carrasco, B.M. Prior, D.A. Rowe, **R.W. Thompson**. Effect of the slow-component rise in oxygen uptake on VO₂max. *Med Sci Sports Exerc* 28(1):72-8, 1996. (29 Citations)