

ANDREW STEVEN LAYNE, PHD

EDUCATION

University of Florida, Gainesville, FL (2012-2017)
Doctor of Philosophy, Exercise Physiology (2017)

East Tennessee State University, Johnson City, TN (2006-2010).
Master of Arts, Sport Physiology and Performance, (2010).
Bachelor of Science, Cum Laude, Exercise Science, (2008).

WORK EXPERIENCE

Layne Performance LLC, Gainesville, FL
Owner and operator, 2018-present

Santa Fe College, Gainesville, FL
Adjunct lecturer, 2018-2019

University of Florida, Gainesville, FL
Research assistant, Dept. of Aging and Geriatric Research, 2016-2017

Graduate Research assistant, Dept. of Applied Physiology and Kinesiology, 2012-2016

East Tennessee State University, Johnson City, TN
Exercise and Sports Science Laboratory co-supervisor and research assistant, 2009-10.

Veteran's Administration Hospital Laboratory, Johnson City, TN
Research assistant, 2009.

School of Kinesiology and Sports Science, East Tennessee State University
Graduate teaching assistant, 2008-2009.

Health Fitness Corporation at Eastman Chemical Company, Kingsport, TN
Health Fitness Specialist, 2008.

TEACHING EXPERIENCE

Santa Fe College, 2018-2019. Medical-Based Physics.

PUBLISHED MANUSCRIPTS

Book chapter: **Layne, AS**; Roberts, LM; Buford, TW. Models of Accelerated Sarcopenia. In: *Sarcopenia: Molecular, Cellular, and Nutritional Aspects* (2020).

Layne, AS; Kriebel, LM; Leeuwenburgh, C; Sandesara, B; Wu, SS; Anton, SD; Pahor, M; Buford, TW. Resveratrol and exercise to treat functional limitations in late life: design of a randomized controlled trial. *Contemporary Clinical Trials Communications*. 2017. Impact factor: 2.095

Krehbiel, LM; **Layne, AS**; Sandesara, B; Manini, TM; Anton, SD; Buford, TW. Wearable technology to reduce sedentary behavior and CVD risk in older adults: design of a randomized controlled trial. *Contemporary Clinical Trials Communications*. 2017. Impact factor: 2.095

Layne, AS; Larkin-Kaiser, K; MacNeil, RG; Dirain, M; Sandesara, B; Manini, TM; Buford, TW. Effects of blood flow restriction on biomarkers of myogenesis among healthy young adults. *Journal of Applied Physiology, Nutrition and Metabolism*. Jan. 2017. Impact factor: 2.789

Mankowski, RT; Anton, SD; Axtell, R; Chen, SH; Fielding, R; Glynn, NW; Hsu, FC; King, AC; **Layne, AS**; Leeuwenburgh, C; Manini, TM; Marsh, AP; Pahor, M; Tudor-Locke, C; Conroy, CE; Buford, TW; for the LIFE Study investigators. Device-measured physical activity as a predictor of disability among mobility-limited older adults. *Journal of the American Geriatrics Society*, Aug. 2017. Impact factor: 4.388

Anton, SD; Hida, A; Mankowski, R; **Layne, AS**; Mainous, AG; Buford, TW. Nutrition and exercise in sarcopenia. *Current Protein and Peptide Science*, Dec 2016. Impact factor: 2.441

Layne, AS; Hsu, FC; Blair, SN; Chen, SH; Dungan, J; Fielding, RA; Glynn, NW; Hajduk, AM; King, AC; Manini, TM; Marsh, AP; Pahor, M; Pellegrini, CA; Buford, TW; for the LIFE study investigators. Predictors of change in physical function among older adults in response to long-term exercise: The LIFE Study. *Archives of Physical Medicine and Rehabilitation*. Aug. 2016. Impact factor: 3.045

South, MA; **Layne, AS**; Stuart, CA; Triplett, NT; Ramsey, MW; Sands, WA; Mizuguchi, S; Hornsby, WG; Kavanaugh, AA; Stone, MW. Effects of short-term free-weight and semi-block periodization resistance training on metabolic syndrome. *Journal of Sport Conditioning Research*, Oct. 2016. Impact factor: 1.978.

Thomas, MM; Wang, DC; D'Souza, DM; Krause, MP; **Layne, AS**; Criswell, DS; O'Neill, HM; Connor, MK; Anderson, JE; Kemp, BE; Steinberg, GR; Hawke, TJ. Muscle-specific AMPK $\beta 1\beta 2$ -null mice display a myopathy due to loss of capillary density in nonpostural muscles. *FASEB J*. Feb 2014. Impact Factor: 5.704.

Stuart, CA; McCurry, MP; Marino, A; South, MA; Howell, MEA; **Layne, AS**; Ramsey, MW; and Stone, MH. Slow-Twitch Fiber Proportion in Skeletal Muscle Correlates With Insulin Responsiveness. *Journal of Clinical Endocrinology and Metabolism*, May 2013. Impact Factor: 6.310.

Layne, AS; Nasrallah, S; South, MA; Howell, MEA; McCurry, MP; Ramsey, MW; Stone, MH; and Stuart, CA; Impaired Muscle AMPK Activation in the Metabolic Syndrome May Attenuate Improved Insulin Action after Exercise Training. *Journal of Clinical Endocrinology and Metabolism*, June 2011. Impact Factor: 5.967.

PRESENTATIONS AND RESEARCH

Poster Presentations

2016 American College of Sports Medicine Annual Meeting, Boston, MA. **Layne, AS;** Larkin-Kaiser, K; MacNeil, RG; Dirain, M; Sandesara, B; Manini, TM; Buford, TW. Effects of blood flow restriction on biomarkers of myogenesis among healthy young adults. Doi: 10.1249/01.mss.0000488103.63341.47

2015 Gerontological Society of America's Annual Meeting. Predictors of Change in Physical Function Among Older Adults in Response to Long-Term Exercise. **Andrew S. Layne,** Fang-Chi Hsu, Shyh-Huei Chen, Roger A. Fielding, Alexandra Hajduk, Abby C. King, Thomas W. Buford, for the LIFE study investigators. *The Gerontologist* (2015) 55 (Suppl 2): NP doi:10.1093/geront/gnv158.

2015 Graduate Student Research Day and

2015 Stanley Lecture Student Poster Session, Gainesville, FL.

Heterogeneity of functional changes and risk factors for major mobility disability among older adults in response to long-term exercise. **Andrew S. Layne,** Fang-Chi Hsu, Steven N. Blair, Shyh-Huei Chen, Timothy S. Church, Jennifer Dungan, Roger A. Fielding, Nancy W. Glynn, Alexandra Hajduk, Abby C. King, Todd M. Manini, Anthony P. Marsh, Marco Pahor, Christine Pellegrini, Thomas W. Buford, for the LIFE study investigators.

2015 College of Medicine Celebration of Research, Gainesville, FL.

Heterogeneity of functional changes among older adults in response to long-term exercise. **Andrew S. Layne,** Fang-Chi Hsu, Steven N. Blair, Shyh-Huei Chen, Timothy S. Church, Jennifer Dungan, Roger A. Fielding, Nancy W. Glynn, Alexandra Hajduk, Abby C. King, Todd M. Manini, Anthony P. Marsh, Marco Pahor, Christine Pellegrini, Thomas W. Buford, for the LIFE study investigators.

ACSM 2013 Annual Meeting, Indianapolis, IN.

Isosorbide dinitrate (ISDN) or L-arginine supplementation augments aging muscle regeneration following cardiotoxin injury. **Andrew S. Layne,** Kevin J. Miller, and David S. Criswell.

4th Annual Coaches and Sport Science College, Johnson City, TN. 2012.

Long-term athlete monitoring: changes in isometric strength and explosiveness in Division I NCAA athletes. **Andrew S. Layne,** William G. Hornsby, Daniel E. Corriher, Henry B. Nowell, Margaret E. Stone, Michael W. Ramsey, Michael H. Stone.

Southeast ACSM 2008 Annual Meeting, Birmingham, AL.

The Relationship of Peak Isometric Strength to Peak Aerobic Power and 3000M Performance in Cross-Country Runners. A. M. Swisher J.M. Kraska, M.W. Ramsey, K. Painter, C. Gooden, **A. Layne**, W.A. Sands, G.G. Haff, J. McBride, M.E. Stone and M.H. Stone.

Research Projects

University of Florida, Gainesville, FL.

Blood Flow Restriction Exercise for Older Adults Undergoing Knee Replacement Surgery *Role:* Supervising exercise interventions, data input and analysis

Principal Investigator: Rene Przkora, MD, PhD

Resveratrol and exercise to treat functional limitations in late life. 2015-Present.

Role: Assisting with implementation of exercise intervention, tissue collection (skeletal muscle biopsies), data analysis and manuscript preparation/publication (in progress).

Principal Investigator: Thomas Buford, PhD

Resveratrol to enhance vitality and vigor in elders. 2015-Present.

Role: Assisting with tissue collection (skeletal muscle biopsies) and participant screening. Effort for this project partially supported by NIA grant 1R01AT007564.

Principal Investigator: Stephen Anton, PhD

Wearable technology to reduce sedentary behavior and CVD risk in older adults. 2015-Present.

Role: Assisting with implementation of exercise intervention.

Principal Investigator: Thomas Buford, PhD

Biomarkers of skeletal muscle atrophy in sarcopenia: TWEAK and Fn14. 2016-Present

Role: Assisting with tissue collection and preparation. Effort for this project partially supported by a grant from BIOGEN Research Corp.

Principal Investigator: Stephen Anton, PhD

Predictors of change in physical function and incident mobility disability among older adults in response to long-term exercise (from the Lifestyle Interventions and Independence for Elders study). 2014-2015.

Role: Assisting with data interpretation, and responsible for manuscript preparation and publication

Principal Investigator: Thomas Buford, PhD

KAATSU training to enhance physical function of older adults with osteoarthritis. 2014-present.

Role: Assisting with implementation of exercise intervention, data analysis and manuscript preparation/publication (in progress). Effort for this project partially supported by NIA grant 2P30AG028740-S.

Principal Investigator: Thomas Buford, PhD

Multi-modal intervention to reduce cardiovascular risk among hypertensive older adults.

Role: Assisting with implementation of exercise intervention.

Principal Investigator: Thomas Buford, PhD

Isosorbide dinitrate (ISDN) or L-arginine supplementation augments aging muscle regeneration following cardiotoxin injury. 2012-2014.

Role: Performed animal surgeries, tissue collection and biochemical analyses.

Principal Investigator: David Criswell, PhD

East Tennessee State University, Johnson City, TN.

Effects of skeletal muscle AMPK and mTOR signaling following resistance exercise in healthy adults and adults with metabolic syndrome. 2008-2010.

Role: Master's thesis. Assisted with study design, exercise interventions, tissue collection and biochemical analyses. Was responsible for data collection and analysis, manuscript preparation and publication.

Acute Effects of Whole-Body Vibration on 30 Meter Fly Sprint Performance. 2009-10.

Role: Assisted with data collection and analysis.

Principal Investigator: Charles Stuart, MD

Athlete monitoring program, 2008-2010.

Role: Supervised graduate and undergraduate students during strength and explosiveness testing of NCAA Division I athletes. Responsible for equipment maintenance, software design and troubleshooting, data analysis and data dissemination to coaches and athletes. *Principal investigators:* Michael Stone, PhD and Michael Ramsey, PhD

Relationship of Strength and Power Characteristics to Overhead Shot Throw Performance in NCAA Division I Male Throwers. 2008-09.

Role: Assisted with data collection and analysis.

Principal Investigator: Michael Stone, PhD

Strength Gains: Block Versus Daily Undulating Periodization Weight Training Among Track and Field Athletes. 2008-09.

Role: Assisted in exercise intervention design and implantation, and data collection.

Principal Investigator: Michael Stone, PhD

GRANT ACTIVITY

2015 ACSM Foundation Doctoral Student Research Grant. Mechanisms of Skeletal Muscle Hypertrophy Following KAATSU Training in Older Adults with Knee Osteoarthritis (Andrew Layne, PI-not funded).

Antibody Resource research grant. Mechanisms of Skeletal Muscle Hypertrophy Following KAATSU Training in Older Adults with Knee Osteoarthritis (Andrew Layne, PI-not funded).

Graduate Student Council Travel Grant Award-ACSM 2013 (\$350), GSA 2015 (\$350).

EDUCATIONAL AND PROFESSIONAL AWARDS

2018 American College of Rehabilitation Medicine's Elizabeth and Sidney Licht Award-Given to best scientific paper of the year, "Predictors of Change in Physical Function in Older Adults in Response to Long-Term Structured Physical Activity-The LIFE Study.

Alumni Fellowship Award- University of Florida Graduate School, 2012-2016.

Outstanding Thesis Award- Clemmer College of Education, East Tennessee State University, 2010.

Cum Laude – Exercise Science, East Tennessee State University, 2008.

PROFESSIONAL INVOLVEMENT

Ad hoc reviewer: *Experimental Gerontology* (2018)

International Journal of Sport Medicine (2017)

Journal of Sports Medicine (2015-2016)

Journal of Sport Sciences (2016)

Biology of Sport (2016)

Aging Clinical and Experimental Research (2016)

Gerontological Society of America member (2015-2018)

American College of Sports Medicine member (2008-present)

National Strength Conditioning Association member (2008-present)

Certified Strength Conditioning Specialist (2018-present)

USA Weightlifting Level 2 Sport Performance Coach (2015-present)