

Joel Martin, PhD, CSCS, ACSM EP-C

Associate Professor of Kinesiology
Academic Program Director, Exercise Fitness and Health Promotion MS Program
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Education

Doctor of Philosophy in Kinesiology, August 2012

The Pennsylvania State University, University Park, PA

Specialization: Biomechanics & Motor Control

Dissertation: Control of Multi-Finger Pressing: Studied with Mechanical and Hypothetical Control Variables

Master of Science in Kinesiology, August 2009

The Pennsylvania State University, University Park, PA

Specialization: Biomechanics & Motor Control

Thesis: Interaction of Finger Enslaving and Error Compensation in Multiple Finger Force Production

Master of Science in Mechanical Engineering, May 2012

The Pennsylvania State University, University Park, PA

Bachelor of Science in Mechanical Engineering, May 2007

State University of New York at Binghamton, Binghamton, NY

Associate of Science in Engineering Science, August 2006

State University of New York at Broome Community College, Binghamton, NY

Professional Experience

Associate Professor, 2019 to Present

George Mason University

School of Recreation, Health and Tourism

Exercise, Fitness and Health Promotion (EFHP) Graduate Program

Kinesiology (KINE) Undergraduate Program

Sports Medicine Assessment Research Testing (SMART) Lab

Assistant Professor, 2012 to 2019

George Mason University

School of Recreation, Health and Tourism

Exercise, Fitness and Health Promotion (EFHP) Graduate Program

Kinesiology (KINE) Undergraduate Program

Sports Medicine Assessment Research Testing (SMART) Lab

Academic Program Coordinator, Summer 2016 to Present

George Mason University

School of Recreation, Health and Tourism

Exercise, Fitness and Health Promotion (EFHP) MS Graduate Program

- Performed all administrative duties of the MS in EFHP program
- Performed tasks related to marketing and recruitment of graduate program
- Modified and developed curriculum to enhance MS in EFHP
- Recruited and mentored adjunct faculty to provide course instruction
- Chaired committee to perform review of degree program
- Developed relationships in the community to provide external funding for graduate students
- Oversaw 7 year program review in 2019-2020
- Lead the proposal of a new MS degree in Kinesiology through board of visitors to state council of higher education in Virginia
- Created a 4+1 bachelor into accelerated MS option for undergraduate students
- Created a certificate specific to working with Tactical Athlete populations
- Procured over \$80,000 in equipment for use by students in coursework
- Assisted in planning phase of a new biomechanics laboratory for research and teaching purposes

Academic Advisor, Summer 2016 to Present

George Mason University

School of Recreation, Health and Tourism

Exercise, Fitness and Health Promotion (EFHP) Graduate Program

- Advised MS students in regards to academic plans and career choices
- Communicated with prospective students regarding coursework

Exercise, Fitness and Health Consulting, Fall 2012 to Present

Self-employed

- Performed consultations and assessments to provide individuals with an understanding of current fitness levels
- Developed programs to assist individuals meet fitness and health goals
- Utilized in-person and online format to assist clients

Teaching Assistant, 2007 to 2012

The Pennsylvania State University

Kinesiology Department

- Provided instruction for undergraduate biomechanics laboratories
- Performed grading of course assessments
- Regularly held office hours to support student learning
- Mentored junior graduate students

Research Assistant, 2007 to 2012

The Pennsylvania State University

Biomechanics and Motor Control Laboratories

- Performed projects to support the research agenda of the laboratory
- Developed data collection procedures for new projects
- Prepared and submitted manuscripts to peer-reviewed journals
- Presented findings at professional conferences

Engineer, 2010 to 2011

Zenolink, LLC

Zenolink specializes in performing video-based motion analysis of various sport movements.

- Collected, processed and analyzed data
- Provided customer service and support to clients
- Performed activities to validated and improve product

Publications and Scholarly Work

Peer Reviewed Published Manuscripts

1. Lee, J., **Martin, J.R.**, Wildenhain, R., Ambegaonkar, J. Plyometrics or Balance Training Effects on Lower Body Power, Balance, or Reactive Agility in Collegiate Basketball Athletes: A Randomized Control Trial. *Turkish Journal of Sports Medicine*. Accepted July 2020.
2. Shookster, D., Lyndsey, B., Cortes, N., **Martin, J.R.** Accuracy of Age Predicted Maximum Heart Rate Equations. *International Journal of Exercise Science*. Accepted June 2020.
3. Merrigan, J., **Martin, J.R.** Is the OUTPUT Sports Unit Reliable and Valid When Estimating Back Squat and Bench Press Concentric Velocity? *Journal of Strength & Conditioning Research*. Accepted June 2020.
4. Hautz, A., Erickson, E., Fyock-Martin, M., Turnbaugh, B., Caswell, S.V., **Martin, J.R.** (2020). What do firefighting ability tests tell us about firefighter physical fitness? A systematic review

and practical recommendations based on current evidence. *Journal of Strength & Conditioning Research* 34(7): 2093-2103.

5. Cox, A., Fyock, M., **Martin, J.R.** (2020). The elevation training mask: a critically appraised topic. *International Journal of Athletic Therapy & Training* 25(3): 108-113.
6. Brezinski, T., **Martin, J.R.**, Ambegaonkar, J. (2020). Prospective injury epidemiology in competitive collegiate club sports. *Athletic Training & Sports Health Care*. Available online February 20, 2020.
7. Draicchio, C., **Martin, J.R.**, Fyock-Martin, M., Merrigan, J. Cross-sectional and retrospective cohort analysis of the army physical fitness test and the occupational physical assessment test in reserve officer training corps cadets. *Military Medicine*. Accepted December 2019.
8. Fyock, M., Cortes, N., Hulse, A., **Martin, J.R.** (2019). Real-time gait feedback to treat patella-femoral pain in adult recreational runners: a critically appraised topic. *Journal of Sport Rehabilitation: Available online – ahead of print*.
9. Jones, M.T., **Martin, J.R.**, Jagim, A.R., Oliver, J.M. (2017). Effect of Direct Whole-Body Vibration on Upper-Body Muscular Power in Recreational, Resistance-Trained Men. *Journal of Strength & Conditioning Research* 31(5), 1371-1377.
10. Jones, M.T., Jagim, A.R., Haff, G.G., Carr, P.J., **Martin, J.R.**, Oliver, J.M. (2016). Greater strength drives difference in power between sexes in the conventional deadlift exercise. *Sports* 4(3), 43.
11. Wilhelm, L.A., **Martin, J.R.**, Latash, M.L., Zatsiorsky, V.M. (2014). Finger enslaving in the dominant and non-dominant hand. *Human Movement Science* 33, 185-193.
12. **Martin, J.R.**, Terekhov, A.V., Latash, M.L., Zatsiorsky, V.M. (2013). Optimization and variability of motor behavior in multi-finger tasks: What variables does the brain use? *Journal of Motor Behavior* 45(4), 289-305.
13. **Martin, J.R.**, Paquet, F., Latash, M.L., Zatsiorsky, V.M. (2013). Changes in the Flexor Digitorum Profundus Tendon Geometry in the Carpal Tunnel Due to Force Production and Posture of Metacarpophalangeal Joint of the Index Finger: an MRI Study. *Clinical Biomechanics* 28(2), 157-163.
14. **Martin, J.R.**, Terekhov, A.V., Latash, M.L., Zatsiorsky, V.M. (2013). Comparison of Finger Interaction Matrix Computation Techniques. *Journal of Applied Biomechanics* 29(5), 525-34.
15. **Martin, J.R.**, Latash, M.L., Zatsiorsky, V.M. (2012). Effects of the index finger position and force production on the flexor digitorum superficialis moment arms at the metacarpophalangeal joints – a magnetic resonance imaging study. *Clinical Biomechanics* 27(5), 453-459.
16. **Martin, J.R.**, Zatsiorsky, V.M., Latash, M.L. (2011). Multi-finger interaction during involuntary and voluntary single finger force changes. *Experimental Brain Research* 208, 423-435.
17. **Martin, J.R.**, Budgeon, M.K., Zatsiorsky, V.M., Latash, M.L. (2011). Stabilization of the total force in multi-finger pressing tasks studied with the ‘inverse piano’ technique. *Human Movement Science* 30(3), 446-458.
18. **Martin, J.R.**, Latash, M.L., Zatsiorsky, V.M. (2011). Coordination of contact forces during multifinger static prehension. *Journal of Applied Biomechanics* 27(2), 87-98.

19. **Martin, J.R.**, Latash, M.L., Zatsiorsky, V.M. (2009). Interaction of finger enslaving and error compensation in multiple finger force production. *Experimental Brain Research* 192(2), 293-298.

Peer Reviewed Manuscripts in Review

1. Marks, D., Merrigan, J., **Martin, J.R.** Do Baseline Physical Fitness Measures Predict Law Enforcement Academy Graduation? *Occupational Medicine*. Submitted May 2020.
2. Boolani, A., Jansen, E., Smith, M.L., Cortes, N., Caswell, S.V., **Martin, J.R.** Essential worker status in relation to lifestyle behaviors and moods: Sample of US adults during the COVID-19 pandemic. *Health Affairs*. Submitted May 2020.
3. Fauntroy, V., Stork, A., Hansen-Honeycutt, J., Deu, R., Klee, H., **Martin, J.R.**, Ambegaonkar, J.P. Sleep Disturbances, Sleep-Related Impairments, Dance Exposure, and Injury Risk in Collegiate Dancers. *Sports Health: A Multidisciplinary Approach* . Submitted June 2020.
4. Mahoney, G., Martin, R., Yager, C., Smith, M., Grin, Z., Vogel-Rossbrook, C., **Martin, J.R.**, Boolani, A. Self-reported feelings of energy and fatigue influence different aspects of gait and balance: An exploratory study. *Human Movement Science*. Submitted June 2020.
5. Merrigan, J., Burke, A., Fyock-Martin, M., **Martin, J.R.** Push-up to pull-up ratios in firefighters and police officers. *International Journal of Exercise Science*. Submitted June 2020.
6. Lyndsey, B., Boolani, A., Merrigan, J., Cortes, N., Caswell, S, **Martin, J.R.** Effects of demographic variables on physical activity and sitting time during the COVID-19 pandemic. *American Journal of Preventative Medicine*. Submitted July 2020.
7. Meyer, J, Herring, M., McDowell, C., Lansing, J., Brower, C., Schuch, F., Tully, M., **Martin, J.**, Caswell, S., Cortes, N., Boolani, A. Epidemiology of Joint Associations of Physical Activity and Sitting Time During COVID Among US Adults. *JAMA Open Network*.

Peer Reviewed Manuscripts in Preparation

1. Merrigan, J., Boolani, A., Lyndsey, B., Cortes, N, Caswell, S, **Martin, J.R.** Effects of demographic variables on physical activity and sitting time during the COVID-19 pandemic. *TBD*.
2. Kearney, J., Vaz, J.R., Nestrowitz, S., Cortes, N., **Martin, J.R.** Effects of police duty below on core musculature activation. *Journal of Applied Biomechanics*.
3. **Martin, J.R.**, Johnson, R., Cortes, N., Boolani, A. Effects of sleep quality on gait and balance in healthy young adults. *Physical Therapy Journal*.

4. Kearney, J., Fyock-Martin, M., Cortes, N., **Martin, J.R.** Professional firefighter performance on the Y-balance test of dynamic postural stability. *Journal of Strength and Conditioning Research*.
5. Warren, S., Brown, A., **Martin, J.R.**, Ambegaonkar, J.P. Fat-Mass, Fat-Free Mass, Nutrition and Physical Activity Across a Semester in Collegiate Dancers. *TBD*.
6. Lyndsey, B., Shookster, D., **Martin, J.R.**, Cortes, N. Accuracy of resting metabolic rate prediction equations. *TBD*.
7. Eddo, O.O., Vaz, J.R., Ludwick, J.L., Lindsey, B.W., **Martin, J.R.** , Caswell, S.V., Cortes, N. Increased trunk kinetics observed during dose-specific trunk lean gait modification. *TBD*.

Conference and Workshop Presentations

1. Marks, D., Merrigan, J., **Martin, J.R.** (2020, July). Do Baseline Physical Fitness Measures Predict Police Academy Graduation? Poster presentation at *National Sports and Conditioning Association National Conference*, Las Vegas, NV.
2. Burke, A., Guempel, B., Merrigan, J., Fyock-Martin, M., **Martin, J.R.** (2020, July). Push to Pull Ratio Imbalances in Professional Firefighters and Police Officers are Dependent on Sex, Body Fatness and Pull Capabilities. Poster presentation at *National Sports and Conditioning Association National Conference*, Las Vegas, NV.
3. Biscardi, L.M., Guempel, B., Frederick, P., **Martin, J.R.** (2020, July). Utilizing Biomechanical Analysis to Inform an Individualized Training Program: A Case Study of a Female Olympic High Jumper. Poster presentation at *National Sports and Conditioning Association National Conference*, Las Vegas, NV.
4. Ghoddosi, N., Fyock-Martin, M., Biscardi, L., Cortes, N., **Martin, J.R.** (2020, May). Relationship Between Muscular Fitness And Health Related Quality Of Life In Professional Firefighters. Poster presentation at *American College of Sports Medicine National Conference*, San Francisco, CA.
5. Biscardi, L., **Martin, J.R.**, Ghoddosi, N., Cortes, N., Fyock-Martin, M., (2020, May). Relationship Between Health-Related Quality Of Life, Aerobic Fitness, And Body Composition In Professional Firefighters. Poster presentation at *American College of Sports Medicine National Conference*, San Francisco, CA.
6. Eddo, O.O., Vaz, J.R., Ludwick, J.L., Lindsey, B.W., **Martin, J.R.** , Caswell, S.V., Cortes, N. (2020, May). Increased trunk kinetics observed during dose-specific trunk lean gait modification. *Gait & Posture*. Thematic poster presentation at *American College of Sports Medicine National Conference*, San Francisco, CA.
7. Shookster, D., Lyndsey, B., **Martin, J.R.**, Cortes, N. (2020, May). Accuracy of Age Predicted Maximum Heart Rate Equations. *International Journal of Exercise Science*. Poster

presentation at *American College of Sports Medicine National Conference*, San Francisco, CA.

8. **Martin, J.R.** (2020, January). Promoting and Facilitating Research with High Teaching Loads and Limited Resources. Podium presentation at the *American Kinesiology Association Leadership Workshop*. Tampa, FL.
9. Busch, E., Fyock-Martin, M., Cortes, N., Hulse, A., **Martin, J.R.** (2019, July). Gait retraining with real-time visual feedback to treat patellofemoral pain in adult recreational runners. Poster presentation at *National Sports and Conditioning Association National Conference*, Washington, DC.
10. Hautz, A., Erickson, E., Fyock-Martin, M., Turnbaugh, B., Caswell, S., **Martin, J.R.** (2019, July). What do work performance tests tell us about firefighter physical fitness? A systematic review and practical recommendations based on current evidence. Poster presentation at *National Sports and Conditioning Association National Conference*, Washington, DC.
11. Draichhio, C., Fyock-Martin, M., **Martin, J.R.** (2019, July). Comparison of the army physical fitness test and the occupational physical assessment test in reserve officer training corps cadets for assessing physical combat readiness. Poster presentation at *National Sports and Conditioning Association National Conference*, Washington, DC.
12. Tate, M., Fyock-Martin, M., **Martin, J.R.** (2019, July). Effect of supplementary plyometric training to resistance training in high school boys basketball athletes. Poster presentation at *National Sports and Conditioning Association National Conference*, Washington, DC.
13. Kettlety, S., Lindsey, B., **Martin, J.R.**, Cortes, N. (2019, July). Bodpod underestimates resting metabolic rate compared to indirect calorimetry in the general population. Poster presentation at *National Sports and Conditioning Association National Conference*, Washington, DC.
14. Coogan, S.M., Hansen-Honeycutt, J., Fauntroy, V., **Martin, J.R.**, Ambegaonkar J (2019, October). Upper body strength-endurance and power norms in healthy collegiate dancers. Poster presented at the *International Association for Dance Medicine & Science Annual Conference*, Montreal, Quebec, Canada.
15. **Martin, J.R.**, Turnbaugh, B.L., Fyock, M.B., McConnell, J., Caswell, S. (2018, August). What do work performance tests tell us about physical fitness? Podium & poster presentation at the *International Fire-Rescue Conference & Expo*, Dallas, TX.
16. Jones, M., Wheeling, L., **Martin, J.R.**, Jagim, A. Oliver, J. (2015, July). Acute Effects of Whole Body Vibration on Upper Body Musculature. Poster presented at the *National Sports and Conditioning Association National Conference*, Orlando, FL.
17. Jones, M., Carr, P., **Martin, J.R.**, and Oliver, J. (2015, June). Sex Differences in Measures of Power and Velocity During Deadlifting. Poster presented at *European College of Sports Science*, Malmo, Sweden.

18. Cortes, N., Oladipo, E., Caswell, S., **Martin, J.R.**, Greska, E., Ambegaonkar, J. (2015, May). Lower Extremity Joint Kinetics Do Not Differ Between Athletic Upper Body Positions. Poster Presentation at *American College of Sports Medicine Annual Meeting*, San Diego, CA.
19. Carr, P., Jones, M., **Martin, J.R.**, Oliver, J. (2014, July) Myotest® Measures of Force, Power, and Velocity Are Correlated with the Tendo Fitrodyne® and Force Plate in the Conventional Deadlift. Poster Presentation at *National Strength and Conditioning Association National Conference*, Las Vegas, NV.
20. **Martin, J.R.**, Terekhov, A.V., Latash, M.L., Zatsiorsky, V.M. (2012, August). Comparison of Finger Interaction Matrix Computation Techniques”. Poster Presentation at *American Society of Biomechanics Annual Meeting*, Gainesville, FL.
21. Bradley, S.M., **Martin, J.R.** (2012, August). Biomechanical Analysis of Basketball Free Throw Shooting. Poster Presentation at *American Society of Biomechanics Annual Meeting*, Gainesville, FL.
22. **Martin, J.R.**, Terekhov, A.V., Latash, M.L., Zatsiorsky, V.M. (2012, August) Performance Optimality and Variability Studied at the Level of Hypothetical Commands to Individual Elements. Poster Presentation at *American Society of Biomechanics Annual Meeting*, Gainesville, FL.
23. Georgeson, A.R., **Martin, J.R.** (2011, August). Force Changes During Passive Finger Movement. Poster Presentation at *American Society of Biomechanics Annual Meeting*, Long Beach, CA.
24. **Martin, J.R.**, Latash, M.L., Zatsiorsky, V.M. (2011, August). Force Sharing Among Fingers During Multi-Finger Pressing in Different Finger Configurations”. Poster Presentation at *American Society of Biomechanics Annual Meeting*, Long Beach, CA.
25. **Martin, J.R.**, Park, J., Latash, M.L., Zatsiorsky, V.M. (2011, July). Analytical Inverse Optimization Applied to Multi-finger Pressing in Different Finger Configurations. Poster Presentation at *International Society of Biomechanics Congress*, Brussels, Belgium.
26. **Martin, J.R.** (2010, August). Stabilization of the Total Force in Multi-Finger Pressing Tasks Studied with the ‘Inverse Piano’ Technique. Poster Presentation at *American Society of Biomechanics Annual Meeting*, Providence, RI.
27. **Martin, J.R.**, Latash, M.L., Zatsiorsky, V.M. (2010, June). Patterns of Finger Interaction Documented Using the ‘Inverse Piano’ Method”. Poster Presentation at *International Hand and Wrist Biomechanics Symposium*, Cleveland, OH.
28. **Martin, J.R.**, Latash, M.L., Zatsiorsky, V.M. (2009, March). Inverse Piano Technique for Studying Finger Interaction During Pressing Tasks. Demonstration at *World Haptics Symposium*, Salt Lake City, UT.
29. **Martin, J.R.**, Latash, M.L., Zatsiorsky, V.M. (2009, August). Effect of Modulation of the Internal Forces on Digit Coordination During Multi-Finger Object Prehension. Poster Presentation at *American Society of Biomechanics Annual Meeting*, University Park, PA.

30. **Martin, J.R.**, Latash, M.L., Zatsiorsky, V.M. (2008, August). Inverse Piano Technique for Studying Finger Interaction During Pressing Tasks. Poster Presentation at *North American Conference of Biomechanics*, Ann Arbor, MI.

Non-Peer Reviewed Publications

1. **Martin, J.R.**, St. Andrews, B. (2012). A Biomechanical Analysis of Rowing. *The CrossFit Journal*, December 2012.

Non-Peer Reviewed Presentations

1. Draicchio, C., Fyock-Martin, M., **Martin, J.R.** (2019, April). Cross-sectional and Retrospective Cohort Analysis of the Comparison of the Army Physical Fitness Test and the Occupational Physical Assessment Test in Reserve Officer Training Corps Cadets. Oral Presentation at *George Mason University College of Education and Human Development Research Symposium*, Fairfax, VA.
2. Hautz, A., Erickson, E., Fyock-Martin, M., Turnbaugh, B., Caswell, S., **Martin, J.R.** (2019, April). What Do Firefighting Ability Tests Tell Us About Firefighter Physical Fitness? A Systematic Review and Practical Recommendations Based on Current Evidence. Poster Presentation at *George Mason University College of Education and Human Development Research Symposium*, Fairfax, VA.
3. Tate, M., Fyock-Martin, M., **Martin, J.R.** (2019, April). Effect of Supplementary Plyometric Training to Resistance Training in High School Boys Basketball Athletes. Poster Presentation at *George Mason University College of Education and Human Development Research Symposium*, Fairfax, VA.
4. Busch, E., Fyock-Martin, M., Cortes, N., Martin, J.R. (2019, April). Gait Retraining With Real-Time Visual Feedback to Treat Patellofemoral Pain in Adult Recreational Runners. Poster Presentation at *George Mason University College of Education and Human Development Research Symposium*, Fairfax, VA.
5. Hautz, H., **Martin, J.R.**, Fyock, M. (2018, April). Physiological and Performance Characteristic Differences Between Elite and Novice Wrestlers. Poster Presentation at *George Mason University College of Education and Human Development Research Symposium*, Fairfax, VA.
6. Kettlety, S., **Martin, J.R.**, Fyock, M. (2018, April). The Effects of Different Intra-Complex Set Rest Intervals on Vertical Jump Height: A Critically Appraised Topic. Poster Presentation at *George Mason University College of Education and Human Development Research Symposium*, Fairfax, VA.
7. Adcock, S., **Martin, J.R.**, Fyock, M. (2018, April). Predictive Power of the Wingate Anaerobic Power Test for On-Ice Performance in Collegiate Ice Hockey Athletes: A Critically Appraised

Topic. Poster Presentation at *George Mason University College of Education and Human Development Research Symposium*, Fairfax, VA.

Grants & Funding

Extramural Funding

Total Funding Received: \$247,121

PI: \$130,332

Co-PI: \$116,789

Source: International Fire-Rescue Conference & Expo

Role: Presenter

Submission Date: February 2018

Amount Requested: \$805

Description: Submitted an abstract for research presentation at the conference. Was awarded full-registration.

Source: Prince William County Police Department “Athletic Training Public Safety Fellowship”

Role: Co-PI 2018 (S. Caswell)

Submission Date: 2017

Amount Requested: \$116,789 (2 year)

Amount Received: \$116,789 (2 year)

Description: Supports collaborative project with George Mason University and the Prince William County Police Department to provide Athletic Training services to police officers in the county.

Source: Prince William County Police Department “Athletic Training Public Safety Fellowship”

Role: PI

Submission Date: May 2019 (renewal)

Amount Requested: \$59,527 (1 year)

Amount Received: \$59,527 (1 year)

Description: Supports collaborative project with George Mason University and the Prince William County Police Department to provide Athletic Training services to police officers in the county. Renewal and modification of previous award. Modification was to take over as PI.

Source: Wakefield School

Role: PI

Original Submission Date: April 2019

Total Amount Requested: \$45,000

Amount Received: \$45,000

Description: Supports a graduate student in the EFHP program to serve as an athletic trainer during the academic year.

Source: Foxcroft School

Role: PI

Submission Date: June 2019

Amount Requested: \$25,000

Amount Received: \$25,000

Description: Supports a graduate student in the EFHP program to serve as an athletic trainer during the academic year.

Source: National Science Foundation (NSF)

Role: Co-PI (PI: Craig Yu; Co-PI's: Shane Caswell, Nelson Cortes, Jatin Ambegaonkar, Joel Martin)

Submission Date: December 2019

Amount Requested: \$1,166,548

Amount Received: \$0

Description: This project aims to create a novel computational design framework for synthesizing personalized exergames for improving body fitness. This framework tracks and analyzes a user's performance in a preassessment test, synthesizing exergaming levels with desired training properties through optimization. The user then practices with the synthesized exergaming levels to achieve personalized exercise goals while enjoying the gameplay.

Intramural Funding

Total Funding Received: \$54,725

Source: Division of Health and Human Performance

Role: Review Director

Submission Date: April 2019

Amount Requested: \$1000

Amount Received: \$1000

Description: Received funding for directing an academic program review of the M.S. in Exercise, Fitness and Health Promotion graduate program.

Source: ***George Mason Summer Impact Grant - Public Safety Wellness and Resiliency: Developing a multidisciplinary model to improve the health of firefighters and police in the Northern Virginia Region***

Role: Primary Investigator

Submission Date: November 2018

Amount Requested: \$47,000

Amount Received: \$47,000

Description: Submitted a proposal for a Summer Impact Grant through the Office of Student Scholarship, Creative Activities and Research (OSCAR) at George Mason University. The grant supports hiring of 9 undergraduate students for 10-week period over Summer 2019. The work will focus on improving the health and fitness of public safety in Prince William County. Students will apply knowledge gained in the classroom to perform fitness testing, exercise program development and nutritional recommendations for police and firefighters in the county.

Source: George Mason University, College of Education and Human Development, Academic Program Innovation Fund

Role: Primary Project Coordinator

Submission Date: February 2018

Amount Requested: \$5000

Amount Received: \$5000

Description: Submitted a proposal to develop a new graduate certificate in Tactical Athlete Strength, Conditioning and Injury Prevention. The certificate would utilize current graduate courses in Exercise, Fitness and Health Promotion and Athletic Training. Additionally, 3 new courses would be developed for the 6-course curriculum.

Source: George Mason University, University Life

Role: Faculty advisor of student club

Submission Date: February 2018

Amount Requested: \$3000

Amount Received: \$1000

Description: Submitted a proposal for University Life to provide funding to graduate students to assist in travel and registration for a National Conference. The student organization assisted with a campus-wide Health & Wellness Fair in exchange for the funding.

Source: George Mason University, College of Education and Human Development, Marketing

Role: Primary Project Coordinator, Program Coordinator

Submission Date: September 2016

Amount Requested: \$725

Amount Received: \$725

Description: Submitted a proposal to the Marketing department of our college for funding to travel to the ACSM Mid-Atlantic Conference to promote our graduate programs to undergraduate students attending the conference

Grant Student Mentorship

Source: National Strength and Conditioning Association Foundation Masters Research Grant

Role: Mentored student developing grant and submitting

Submission Date: Spring 2019

Amount Requested: \$2390

Amount Received: \$0

Description: Student submitted a grant to the NSCA for funding to support their MS research project. Provided mentorship and guidance to the student throughout the process.

Source: National Strength and Conditioning Association Foundation Masters Research Grant

Role: Mentored student developing grant and submitting

Submission Date: Spring 2017

Amount Requested: \$7309

Amount Received: \$0

Description: Student submitted a grant to the NSCA for funding to support their MS research project. Provided mentorship and guidance to the student throughout the process.

Research Project Advising / Mentoring

Doctoral Students (n=7)

Bryndan Lindsey, PhD Student, Portfolio Committee Member, 2018-Present

Navid Ghoddosi, PhD Student, Portfolio Committee Member, 2019-Present

Lauren Biscardi, PhD Student, Portfolio Committee Member, 2019-Present

Tianyi 'Bruce' Lu, Deans Scholar, Mentor, Fall 2019

Eddo Oladipo, PhD Student, Dissertation Committee Member, 2018-2019

Matt Prebble, PhD Student, Dissertation Committee Member, 2018-2019

Jordan Goffena, PhD Student, Dissertation Committee Member, 2018-2019

Masters Students (n=21)

Chris Frost, MS Student, Primary Advisor, 2019-2021

Sara Nestowitz, MS Student, Primary Advisor, 2019-2021

Josh Zimmerman, MS Student, Primary Advisor, 2019-2021

Ian Brewer, MS Student, Primary Advisor, 2019-2021

Bishop Guempel, MS Student, Primary Advisor, 2019-2021

Adam Burke, Visiting MS Student, Mentor, Summer 2019

Daniel Marks, MS Student, Primary Advisor, 2018-2020

Ronald Johnson, MS Student, Primary Advisor, 2018-2020

James Kearney, MS Student, Primary Advisor, 2018-2020

Caty Draicchio, MS Student, Primary Advisor, 2017-2019

Eric Erickson, MS Student, Primary Advisor, 2017-2019

Hunter Hautz, MS Student, Primary Advisor, 2017-2019

Myles Tate, MS Student, Primary Advisor, 2017-2019

Brad Turnbaugh, MS Student, Primary Advisor, 2016-18

Tom Brezinski, MS Student, Primary Advisor, 2016-18

Andrew Cox, MS Student, Primary Advisor, 2016-18

Jaelynn Lee, MS Student, Secondary Advisor, 2016-18

Nawal Kassem, MS Student, Secondary Advisor, 2016-18
Jonathan Neddo, MS Student, Secondary Advisor, 2015-16
Leah Wheeling, MS Student, Secondary Advisor, 2015-16
Tarique Siragy, MS Student, Secondary Advisor, 2015-16

Undergraduate Students

Daniel Shookster, Kinesiology Student, Mentor, Summer 2019
Hadley Graham, Kinesiology Student, Mentor, Summer 2019
Preston Hudgins, Kinesiology Student, Mentor, Summer 2019
Ryan Lee, Athletic Training Student, Mentor, Summer 2019
Haneen Hafiz, Athletic Training Student, Mentor, Summer 2019
Don Cedarlund, Athletic Training Student, Mentor, Summer 2019
Taylor Day, Athletic Training Student, Mentor, Summer 2019
Demetria Fleming, Athletic Training Student, Mentor, Summer 2019
Alexis Haden, Athletic Training Student, Mentor, Summer 2019
Emily Busch, Kinesiology Student, Mentor, 2018-19
Patrick Carr, Kinesiology Student, Mentor, 2013-14
Stephen Bradley, Kinesiology Student, Mentor, 2011-12
Andrew Georgeson, Kinesiology Student, Mentor, 2010-11

Instruction

Undergraduate Level

Principles of Health-Related Fitness, KINE 200
Exercise Physiology I, KINE 310
Seminar in Kinesiology, KINE 330
Kinesiology Internship 1, KINE 341
Exercise Prescription and Programming, KINE 350
Strength Training: Concepts & Applications, KINE 360
Biomechanics, KINE 400
Research Methods, KINE 450 (formerly PRLS 450)

Graduate Level

Movement & Fitness Assessment, EFHP 611
Scientific Foundations of Applied Kinesiology, EFHP 612
Advance Applied Biomechanics, EFHP 613
Scientific Communications Seminar, EFHP 690
Motor Learning and Control, EFHP 811
Musculoskeletal Biomechanics in Human Movement, EFHP 813
Measurement Techniques and Instrumentation, EFHP 815

Data Analytics in Exercise, Fitness and Health Promotion, EFHP 825

Independent Studies

Kinesiology Internship 2, KINE 441

Kinesiology Internship 3, KINE 490

Special Topics, EFHP 598

Independent Study, EFHP 599

Movement & Fitness Assessment, EFHP 611

Scientific Foundations of Applied Kinesiology, EFHP 612

Advance Applied Biomechanics, EFHP 613

Research Methods in Applied Kinesiology, EFHP 620

Scientific Communications Seminar, EFHP 690

Motor Learning, EFHP 730

Doctoral Internship, EDUC 994

Academic Advising

Exercise, Fitness and Health Promotion, MS Program Academic Advisor

George Mason University

2019-20: 37 students

2018-19: 29 Students

2017-18: 30 Students

2016-17: 29 Students

BS into Accelerated MS Program, Academic Advisor

George Mason University

2019-20: 3 students

2018-19: 3 students

2017-18: 3 students

Service

Professional Service

National Level

- Executive Council Member, Spring 2020-Present

Selected to serve as an executive council member of the NSCA Tactical Strength and Conditioning Special Interest Group

- External Reviewer, Summer 2019
Served as external reviewer for US Marines Fitness Instructor Training Curriculum.
- Reviewed Graduate Student Grants for NSCA, 2014-Present
Each year served as a reviewer for several grant applications made to the NSCA by graduate students in strength and conditioning lines of research.
- Book Review, 2017
Reviewed "The Sports Playbook: Building Teams that Outperform, Year after Year" by Gordon, Furlong and Pendleton.
- Reviewed Website for NSCA, 2016
Reviewed educational articles and videos on website to ensure content was appropriate based on the mission of the NSCA.
- Book Review, 2015
Reviewed new exercise physiology textbook. Provided feedback based on experience teaching exercise physiology at the undergraduate level.
- Book Review, 2014
Performed blind review of new text book on the art and science of coaching.
- Book Review, 2009
Reviewed Biomechanics of Skeletal Muscles by Zatsiorsky & Prilutsky.
- Article Reviewer for the Following Peer-reviewed Journals:
 - *Journal of Applied Biomechanics*
 - *International Journal of Athletic Training and Therapy*
 - *The Open Sports Sciences Journal*
 - *Research Quarterly for Exercise and Sport*

Regional & State Level

- NSCA State Advisory Board, Summer 2019-Present
Served as Virginia State Advisory board member for NSCA. Provided guidance and promoted the organization at the state level.
- Invited Talk, HHP 5460 Principles of Conditioning for Sport & Wellness, Austin Peay State University, June 2019
Provided an invited guest lecture on resistance training programming and tactical athlete strength & Conditioning
- Fitness Certificate Advisory Board, 2016-17

Member of an advisory board for a Fitness Certificate at Northern Virginia Community College. Provide guidance on curriculum and trends in the industry.

- ACSM Mid-Atlantic Meeting Volunteer, *Fall 2016*
Volunteered to assist with a fitness competition for undergraduate students attending regional meeting.

University, College and School Service

- Ad-hoc Committee for COVID-19 FEC Annual Evaluations, Spring 2020
- Kinesiology Senior Tenure Line Faculty Search Committee, *Fall 2019-Spring 2020*
- College of Education and Human Development Survey Task Force, *Fall 2019-Spring 2020*
- School of Kinesiology Annual Faculty Evaluation Committee, *Fall 2019-Spring 2020*
- Bull Run Hall Expansion Committee, Summer 2019
- College of Education and Human Development Dean's Council Committee, *Fall 2018-Spring 2020*
- Kinesiology Internship Coordinator Search Committee, *Summer 2018*
- Kinesiology Term Faculty Search Committee, *Fall 2017-Spring 2018*
- Kinesiology Tenure Track Faculty Search Committee, *Fall 2017-Spring 2018*
- Kinesiology Faculty Search Committee, *Fall 2016-Spring 2017*
- Faculty advisor of EFHP Graduate student club – Exercise Promotion Student Society (ExPreSS), *Spring 2016 to Present*
- Developed and Faculty advisor of Kinesiology undergraduate student club, *Fall 2013 to Spring 2015*
- Kinesiology Faculty Search Committee, *Fall 2013*
- Recreation, Health & Tourism Curriculum Committee, *Fall 2016-Spring 2018*
- Recreation, Health & Tourism Meeting Secretary, *Fall 2015-Spring 2016*
- Kinesiology Committee, *2012-Present*

- Exercise Fitness and Health Promotion Committee, *2012-Present*
- Sports Medicine Assessment Research Testing (SMART) Lab Committee, *2012-Present*
- Adjunct and Graduate Student Teaching Mentoring, *2012-Present*
Mentored adjuncts and graduate students teaching undergrad level courses. Provided materials and met with them as needed to ensure course was successful for students and instructors.
- Student Orientation Events, *2012-Present*
Attended student orientation events throughout the year to meet students and parents.
- Summer & Fall Fitness Class, *2014*
Lead a conditioning class one day per week from June thru October at the Freedom Aquatic and Fitness Center for George Mason faculty, staff and students. Classes consisted of functional movements and multi-modal workouts.
- Provided Advising to Incoming Freshman and Transfer Students, *2013-Present*
Greeted incoming freshman and transfer kinesiology students during the Summer to welcome students to the program and provide academic advising for the upcoming semester.
- Running Technique with George Mason Men's Soccer Team, *Fall 2013*
Worked with George Mason Men's soccer team to improve running technique of players during the off-season. Provided educational talk on proper running technique, demonstrated drills to improve technique and analyzed individual player's running form to give specific recommendations for improvement.

Community Service

- Invited Talk – Marines from Quantico, VA, *Fall 2018*
Provide a guest talk and demonstration to a group of Marines on the topics of fitness & movement assessment. Arranged for lab tour and demonstration of equipment on the Science and Technology campus.
- Police Officer Fitness Testing, *Fall 2018*
Performed fitness and movement testing to 14 Prince William County police officers. Officers received a report and detailed exercise recommendations.
- Provided an expert opinion/analysis to Prince William County Public Safety, *Summer 2018*
Reviewed a document linking physical requirements of being a police officer to events assessing each requirement. Provided opinion as to if I believe the requirement and event were appropriate. Suggested exercises for officers to perform that would physically train for each requirement.

- **Police Officer Recruit Fitness Testing, Summer 2018**
Performed fitness testing on Prince William County police recruits prior to entering the academy.
- **Guest Webinar Seminar Series, Summer 2018**
Provided a 5-week seminar to staff at a gym in State College, PA on the topic of Motor Learning and how it related to coaching from a fitness perspective. Met virtually with staff once a week and provided readings related to topic covered.
- **Community Fitness Testing & Exercise Program, 2016-Present**
Developed a class project in which students were assigned to volunteers from the community. The volunteers received a fitness assessment and exercise program from students in the course.
- **Running Talk, 2015**
Provided a talk on running injuries and biomechanics with a graduate student in the EFHP program at Pacers Running Store (Fairfax, VA).
- **Running Seminar, 2014**
Provided a half-day seminar on running. Topics covered were running biomechanics, running drills and stretching/foam rolling techniques that can be used to prevent or treat injuries at Crossfit Magni (Fairfax, VA).
- **Seminar on Throwing and Hitting Biomechanics, 2014**
Presented on throwing and hitting biomechanics at Strength and Performance Training. Audience consisted of the facilities members and their staff. Talk was geared towards improving throwing and hitting mechanics in a variety of sports. Talk was given at SAPT (Fairfax, VA).
- **Running Talk, 2014**
Provided an educational talk to a group of middle school girls on the Farmwell Station Middle School cross-country team. Topics covered were running biomechanics, running drills and stretching/foam rolling techniques that can be used to prevent or treat injuries.
- **Running Biomechanics Talk, 2013**
Presented during Spring 2013 and Fall 2013 semesters to members of the local community on running biomechanics at the Freedom Aquatic and Fitness Center (Manassas, VA). Focus of the talks was on how to improve performance and reduce injuries by optimizing running technique.
- **Running Seminar, 2013**
Provided a half-day seminar on running. Topics covered were running biomechanics, running drills and stretching/foam rolling techniques that can be used to prevent or treat injuries. Seminar was at CrossFit Nittany (State College, PA).

- Volunteer Biomechanist, 2012
Volunteered for USA Track & Field. Traveled to Chula Vista, CA to assist with data collection. Data was analyzed then given to athletes and coaches to be used to improve performance.
 - Alumni Undergraduate Mentor, 2013
Mentored a Penn State undergraduate student as they completed their senior year. Maintained regular contact with the student during the year and provided guidance as needed.
 - Undergraduate Mentor, 2007-12
Mentored several Penn State undergraduate students. Duties included meeting with students to discuss research and different areas of biomechanics and mentoring the conduct and dissemination of several studies that were presented at the American Society of Biomechanics conference.
 - International High School Science Fair Judge, 2012
Served as a judge for international online science fair competition sponsored by Google. Evaluated several hundred entries in regards to presentation, research question, hypothesis, conclusion, and scientific merit.
 - Pennsylvania State Science Fair Judge, 2009-12
Served as judge for finals of the Pennsylvania state science fair. Evaluated science fair projects in regards to presentation, research question, hypothesis, conclusion, and scientific merit.
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Honors and Awards

- Nominated (anonymous) for the 2019 Academic Advisor of the Year Award by a student in the MS EFHP program, *Spring 2019*
- Nominated (anonymous) for the 2019 George Mason University Online Teaching Excellence Award. This award specifically recognizes an outstanding faculty member for innovative online teaching which enhances student learning at the university, *Fall 2018*
- Selected as a “Nifty Fifty” presenter for the USA Science & Engineering Festival, the largest celebration of Science and Engineering in the United States, *Spring 2018 & 2019*
- Nominated by a student (anonymous) for the 2018 George Mason University Teaching Excellence Award, *Fall 2018*
- Recognized as most influential faculty member by student athlete, *Spring 2017*

- Nominated for the university-wide “Career Connection Faculty Award” by a George Mason undergraduate student, *Fall 2014*
 - University Wide Team Excellence award as a member of the SMART Lab, *2013*
 - President of Kinesiology Graduate Association at Penn State, *2011-2012*
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Professional Memberships & Certifications

- National Sports Conditioning Association (NSCA, active)
 - American College of Sports Medicine (ACSM, in-active)
 - American Society of Biomechanics (ASB, in-active)
 - Certified Strength and Conditioning Specialist (CSCS)
 - American College of Sports Medicine – Certified Exercise Physiologist (EP-C)
 - NSCA Certified Tactical Strength and Conditioning Facilitator (TSAC-F)
 - United States Weightlifting (USAW) Level 1 Sports Performance Coach
 - Functional Movement Screen (FMS) Level 1
 - NASM Corrective Exercise Specialist (NASM CES)
 - NASM Performance Enhancement Specialist (NASM PES)
 - Precision Nutrition Level 1 Coach (Pn1)
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Media Interviews and Mentions

1. “Gearing up for Turkey Trots: Fitness experts offer tips for getting in shape”. *The Connection Newspapers*, November 2012.
2. “Preventing Holiday Weight Gain: Nutritionists say merriment doesn’t have to lead to bulge”. *The Connection Newspapers*, December 2012.
3. “Keys to Staying Healthy During the Holiday Season: Finding balance can preserve one’s well-being”. *The Connection Newspapers*, December 2012.
4. “Understanding Yoga: Local yogis explain popular styles of yoga”. *The Connection Newspapers*, December 2012.
5. “Living Up to New Year Resolutions: Benefit of cardio workout plan includes weight loss and decreased heart disease risk”. *The Connection Newspapers*, January 2013.

6. "GPS watch test: Adidas, miCoach, Smart Watch, Garmin Forerunner 620, TomTom Multi-Sport GPS Watch". *The Washington Post Express*, December 2013.
7. "The Rise of the Personal Trainer Slash Celebrity". *Shape Magazine*, September 2015.
8. "Do Spin Class Weights Really Count as Strength Training?". *Fitness Magazine*, January 2016.
9. "Marking American Heart Month: Month-long observance raises awareness about cardiovascular disease and the role of aerobic exercise in preventing it." *The Connection Newspapers*, February 2016.
10. "Why You Should Play a Sport You Really Suck at: Your clumsiness is a weapon for growth". *Men's Health Magazine*, March 2016.
11. "Is It Bad to Only Do Bodyweight Workouts?" *Shape Magazine*, April 2016.
12. "Take a Hike", *Shape Magazine*, August 2016
13. "Why Weightlifting Is a Sport for Every*body" *Shape Magazine*, August 2016.
14. "Getting Hurt in the Gym: Strategies for preventing and treating workout injuries" *The Connection Newspapers*, June 2017.
15. "10 Slimming Tips to Get You Ready for Summer" *Livestrong.com*, June 2018.
16. "Stronger Than Last Year" *Men's Journal*, January 2019.
17. "Give It a Rest" *Women's Health*, January-February 2019.
18. "Managing Energy and Fatigue During Quarantine", Webinar by American Pakistan Foundation, April 2020.