

Matt S. Stock, Ph.D.

Curriculum Vitae

Associate Professor (with tenure)
Director, Institute of Exercise Physiology & Rehabilitation Science
Co-Director, CNSLab
School of Kinesiology and Rehabilitation Sciences
University of Central Florida
12805 Pegasus Drive, HS 1 - Room 258
Orlando, FL 32816-2205
Office: (407) 823-0364
Email: matt.stock@ucf.edu

Web Links

[PubMed Bibliography](#)
[Google Scholar Page](#)
[ResearchGate Page](#)
[ResearcherID: G-8308-2018](#)
[University webpage](#)

EDUCATION AND ACADEMIC APPOINTMENTS

University Education

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| 2012 | Ph.D. in Exercise Physiology
University of Oklahoma
Department of Health and Exercise Science
Mentor: Travis W. Beck, Ph.D. |
| 2008 | M.S. in Exercise Physiology
University of Nevada, Las Vegas
Department of Kinesiology and Nutrition Sciences
Mentor: John C. Young, Ph.D. |
| 2006 | B.S. in Exercise Science and Health Promotion
Florida Atlantic University
Department of Exercise Science and Health Promotion |

Professional Training and Continuing Education

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| 2023 | NIH/NICHD Training in Grantsmanship for Rehabilitation Research (Charleston, SC) |
| 2023 | Completion of the Center for Distributed Learning IDL6543 (training in online learning) |
| 2019 | NIH Regional Seminar on Program Funding and Grants Administration (Baltimore, MD) |
| 2017 | Intensive Course in Transcranial Magnetic Stimulation Attendee at the Berenson-Allen Center for Noninvasive Brain Stimulation (Beth Israel Deaconess Medical Center, Harvard University) |
| 2017 | University of Central Florida College of Health and Public Affairs Research Fellowship |
| 2011 | LabVIEW Core 1 Workshop (Oklahoma City, OK) |

Academic Appointments

2020 – 2023	University of Toledo School of Exercise and Rehabilitation Sciences College of Health and Human Services <i>Adjunct Graduate Faculty Member</i>	Toledo, OH
2019 – Present	University of Central Florida School of Kinesiology and Rehabilitation Sciences Division of Physical Therapy <i>Associate Professor with tenure</i> <i>Director, Institute of Exercise Physiology</i> <i>and Rehabilitation Science</i> <i>Core Faculty, Disability, Aging, and Technology</i> <i>Cluster Initiative</i>	Orlando, FL
2016 – Present	<i>Co-Director, Cognition, Neuroplasticity, Sarcopenia (CNS) Lab</i> <i>Director, Doctor of Physical Therapy Capstone Research Program</i>	
2016 – 2019	<i>Assistant Professor, tenure-earning</i>	
2012 – 2016	Texas Tech University Department of Kinesiology and Sport Management <i>Assistant Professor, tenure-earning</i> <i>Co-Director, Muscular Assessment Laboratory</i> <i>Co-Director, Human Performance Laboratory</i>	Lubbock, TX
2008 – 2012	University of Oklahoma <i>Graduate Assistant, Biophysics Laboratory</i>	Norman, OK
2006 – 2008	University of Nevada, Las Vegas <i>Graduate Assistant</i>	Las Vegas, NV

AWARDS AND HONORS

2021	UCF Research Incentive Award (<i>University-level award</i>)
2021	UCF Excellence in Graduate Teaching Award (<i>University-level award</i>)
2021	Excellence in Research Award - UCF College of Health Professions and Sciences (<i>College-level award</i>)
2021	Excellence in Graduate Teaching Award - UCF College of Health Professions and Sciences (<i>College-level award</i>)
2021	National Strength and Conditioning Association (NSCA) Foundation Service Recognition Award
2020	Grant Writing Mentorship Award - UCF College of Health Professions and Sciences
2019	Grant Writing Mentorship Award - UCF College of Health Professions and Sciences
2018	Fellow of the NSCA

2017	NSCA Educator of the Year
2016	Tech University New Faculty Award
2015	Translational Research Award at Texas Tech University Health Sciences Center Gender-Specific Medicine & Women's Health Symposium
2014	Texas Tech University Teaching, Learning, and Professional Development Center Faculty Spotlight Award
2012	NSCA Foundation Challenge Scholarship
2011	Doctoral Student Podium Research Presentation Award, NSCA's 34 th Annual Meeting
2011	Doctoral Student Research Award, University of Oklahoma, Health and Exercise Science
2011	NSCA Foundation Challenge Scholarship
2010	Outstanding Graduate Student in Health and Exercise Science, University of Oklahoma
2009	University of Oklahoma College of Arts and Sciences Corinne Price Scholarship

ACADEMIC AND PROFESSIONAL LEADERSHIP

Vice-Chairperson of the International Society of Biomechanics Motor Control Group (2022-present)

- Work alongside other board members to increase the visibility of motor control and biomechanics within the scientific/sport/clinical community
- Supporting the organization of events and seminars
- Provide advocacy for the for the ISB and Motor Control Group in public forms

Commission on Accreditation in Physical Therapy Education On-Site Accreditation Reviewer (2022-present)

- Knowledge of and training (Alexandria, VA) regarding Doctor of Physical Therapy program requirements
- On-site reviews for Doctor of Physical Therapy programs in the United States

The UCF Faculty Excellence Advisory Committee (2020-2021)

- Provide input, recommendations, and feedback on various Faculty Excellence initiatives
- Participated in programming offered through Faculty Excellence
- Served on the Mid-Career subcommittee

Director of the UCF Institute of Exercise Physiology and Rehabilitation Science (2019-present)

- Support of PIs in seven laboratories
- Mentorship of junior PIs and PhD students
- Annual assessment management with the UCF Office of Research and Institutional Effectiveness
- Creation and oversight of research seminar series (fall semester) and annual conference (spring semester)
- Creation of an external advisory board
- Support of UCF Sport Science initiatives
- Community outreach and philanthropy
- Management of all social media accounts (Twitter and Instagram)

Director of the UCF Doctor of Physical Therapy Capstone Research Program (2016-present)

- Administrative oversight of all doctoral student research projects (conducted in groups, 12 projects /cohort)
- Communication and coordination with faculty advisors
- Provide guidance to students in areas of research ethics and project administration
- Ensure compliance and communication with UCF Institutional Review Board
- Support students in efforts to disseminate research (i.e., poster, manuscript, and presentation preparation)

Board of Directors for the NSCA Foundation (Member 2017-2018; President 2018-2020; Past President 2020-2021)

- Managed ~\$5 million budget
- Hired the Foundation's first full-time Executive Director
- Creation of founding bylaws, strategic planning, and new policies and procedures
- Governance structure; onboarding and expectations for Board and committees
- Creation of two new committees (Investment and Coaching Advancement Grant and Assistantship)
- Strategized donations and planned giving
- Reconceptualized grants, scholarship, and assistantship reviews
- Implemented diversity, equity, and inclusion/bias training for the Board and committees
- Showed agility by creating a COVID-19 Relief Grant in the summer of 2020 to financially support practitioners
- Successfully navigated a variety of complex legal issues

Texas Tech University M.S. Human Performance (2012-2016)

- Development of the M.S. in Kinesiology Human Performance track
- Program Director for the NSCA Education Recognition Program (ERP) program
- Hosted NSCA CSCS exams on campus each semester

RESEARCH: PUBLICATIONS, PRESENTATIONS, AND FUNDING

Publications in Peer-Reviewed Journals

• Total number of publications in-press or published:	114
• Total number of publications as 1st or corresponding author:	56
• Total times cited according to Google Scholar (last 5 years):	2,184 (1,449)
• Google Scholar h-index:	25 (21)
• Google Scholar i10-index:	60 (47)
• Number of times cited according to Web of Science:	1,184
• Web of Science h-index:	19
• Mean NIH Relative Citation Ratio	1.37
• Number of different published student authors:	64

Bold font = Corresponding author

Underlined font = Student working under my mentorship

Manuscripts Currently in Review

1. Beausejour, JP, Knowles, KS, Wilson, AT, Mangum, LC, Hill, EC, Hanney, WJ, Wells, AJ, Fukuda, DH, Stout, JR, **Stock, MS**. Innovations in the Assessment of Skeletal Muscle Health: A Glimpse into the Future. Submitted to the *International Journal of Sports Medicine* on September 21, 2023.
2. Ruple, BA, Vann, CG, Sexton, CL, Osburn, SC, Smith, MA, Godwin, JS, Mumford, PW, Stock, MS, Edison, JL, Roberts, MD, Young, KC. Peripheral quantitative computed tomography is a valid imaging technique for tracking changes in skeletal muscle cross-sectional area. Submitted to *Clinical Physiology and Functional Imaging* on September 21, 2023.

3. Pagan, JI, Bradshaw, BA, Bejte, B, Hart, JN, Perez, V, Knowles, KS, Beausejour, JP, Luzadder, M, Osorio, C, Menger, R, Harmon, KK, Hanney, WJ, Wilson, AT, Stout, JR, **Stock, MS**. Task-specific resistance training adaptations in older adults: Comparing traditional and functional exercise interventions. Submitted to *GeroScience* on September 17, 2023.
4. MacLennan, RJ, Hernandez-Sarabia, JA, Reese, SM, Shields, JE, Smith, CM, Stute, K, Collyar, J, Olmos, AA, Danielson, TL, MacLennan, DL, Pagan, JI, Harmon, KK, Girts, RM, Coker, NA, Carr, JC, Ye, X, Perry, JW, Stock, MS, Defreitas, JM. Determining fNIRS ability to discern laterality of lower body contractions. Submitted to *Experimental Brain Research* on July 28, 2023.
5. Gonzalez Rojas, DH, Wizenberg, AM, Rivera, PM, Proppe, CE, Lawson, JE, Stock, MS, Stout, JR, Billaut, F, Hill, EC. Acute effects of sprint interval training and blood flow restriction on neuromuscular and muscle function. Submitted to the *Journal of Musculoskeletal and Neuronal Interactions* on July 20, 2023.
6. Beausejour, JP, Guinto, G, Artrip, C, Corvalan, A, Furtado Mesa, M, Stock, MS. Successful powerlifting in a unilateral, transtibial amputee: A descriptive case series. Submitted to the *Journal of Strength and Conditioning Research* on June 21, 2023.
7. Harmon KK, Girts RM, Rodriguez G, Beausejour JP, Pagan JI, Carr JC, Garcia J, Roberts MD, Hahs-Vaughn DL, Stout JR, Fukuda DH, Stock MS. Combined action observation and mental imagery vs. neuromuscular electrical stimulation as novel therapeutics during short-term knee joint immobilization. Submitted to *Applied Physiology, Nutrition, and Metabolism* on June 5, 2023.
8. Girts RM, Harmon KK, Rodriguez G, Beausejour JP, Pagan JI, Carr JC, Garcia J, Stout JR, Fukuda DH, Stock MS. Sex differences in muscle quality recovery following one week of knee joint immobilization and subsequent retraining. Submitted to *Applied Physiology, Nutrition, and Metabolism* on June 5, 2023.
9. Coker, N, Renziehausen, J, Alberto, A, Stock, MS, Clark, M, Fukuda, D, Wells, A. Contralateral repeated bout effect of the elbow flexors. Submitted to the *European Journal of Applied Physiology* on May 21, 2023.

Manuscripts Accepted and In-Press

1. Sherman, DA, Rush, JL, Stock, MS, Ingersoll, CD, Norte, GE. Neural drive and motor unit characteristics after anterior cruciate ligament reconstruction: Implications for quadriceps weakness. Accepted by *PeerJ* on September 18, 2023.
2. Beausejour, JP, Bohlen, PS, Harmon, KK, Girts, RM, Pagan, JI, Hahs-Vaughn, DL, Herda, TJ, Stock, MS. A comparison of techniques for verifying the accuracy of Precision Decomposition-derived motor unit firing rates and recruitment thresholds from surface EMG signals. Accepted by *Experimental Brain Research* on August 21, 2023.
3. Knowles, KS, Beausejour, JP, Harmon, KK, Girts, RM, Fukuda, DH, Kidgell, DJ, Stock, MS. The influence of transcranial magnetic stimulation interpulse interval duration on knee extensor corticospinal excitability. Accepted by *Brain Connectivity* on July 28, 2023. doi.org/10.1089/brain.2023.0020

4. Candow, DG, Forbes, DG, Forbes, SC, Ostojic, SM, Prokopidis, K, Stock, MS, Harmon, KK, Faulkner, P. "Heads Up" for Creatine Supplementation. Accepted by *Sports Medicine* on June 1, 2023. doi.org/10.1007/s40279-023-01870-9
5. Altiner, BLM, Dixon, MA, Nite, C, Stock, MS. Toward professionalization of the strength and conditioning field. Accepted by the *Strength and Conditioning Journal* on April 3, 2023. doi.org/10.1519/SSC.0000000000000787

Published Manuscripts

2023

6. Pagan, JI, Harmon, KK, Girts, RM, MacLennan, RJ, Beausejour, JP, Hernandez-Sarabia, JA, Coker, NA, Carr, JC, Ye, X, Defreitas, JM, Stock, MS. (2023). Sex-specific reliability of lower limb corticospinal excitability and silent periods. *Journal of Strength and Conditioning Research*, 37(9):1882-1887. doi.org/10.1519/JSC.0000000000004525
7. Ruple, BA, Plotkin, D, Smith, MA, Godwin, JS, Sexton, CL, McIntosh, MC, Kontos, NJ, Beausejour, JP, Pagan, JI, Rodriguez, JP, Sheldon, D, Knowles, KS, Libardi, CA, Young, KC, **Stock, MS**, Roberts, MD. (2023). The effects of resistance training to near failure on strength, hypertrophy, and motor unit adaptations in previously trained adults. *Physiological Reports*, 11: e15679. doi.org/10.14814/phy2.15679
8. Sherman, DA, Baumeister, J, Stock, MS, Murray, AM, Bazett-Jones, DM, Norte, GE. (2023). Brain activation and single-limb balance deficits following anterior cruciate ligament reconstruction: neuroplasticity and potential treatments. 149:88-99. [doi: 10.1016/j.clinph.2023.02.175](https://doi.org/10.1016/j.clinph.2023.02.175)
9. Peller, A, Garib, R, Garbe, E, Komforti, D, Joffe, C, Magras, A, Trapuzzano, A, Stock, MS, Dawson, NT. (2023). Validity and reliability of the NIH Toolbox® Standing Balance Test as compared to the Biodex Balance System SD. *Physiotherapy Theory and Practice*, 39(4):827-833. [doi: 10.1080/09593985.2022.2027584](https://doi.org/10.1080/09593985.2022.2027584)
10. Sherman, DA, Baumeister, J, Stock, MS, Murray, AM, Bazett-Jones, DM, Norte, GE. (2023). Weaker quadriceps corticomuscular coherence in individuals following ACL reconstruction during force tracing. *Medicine and Science in Sports and Exercise*, 55(4):625-632. [doi: 10.1249/MSS.0000000000003080](https://doi.org/10.1249/MSS.0000000000003080)
11. Sherman, DA, Baumeister, J, Stock, MS, Murray, AM, Bazett-Jones, DM, Norte, GE. (2023). Inhibition of response selection motor processes: negative neuroplasticity following anterior cruciate ligament reconstruction. *Medicine and Science in Sports and Exercise*, 55(3):440-449. [doi: 10.1249/MSS.0000000000003072](https://doi.org/10.1249/MSS.0000000000003072)

2022

12. Ruple, BA, Smith, MA, Osburn, SC, Sexton, CL, Godwin, JS, Edison, JL, Poole, CN, Stock, MS, Fruge, AD, Young, KC, Roberts, MD. (2022). Comparisons between skeletal muscle imaging techniques and histology in tracking mid-thigh hypertrophic adaptations following 10 weeks of resistance training. *Journal of Applied Physiology*, 133(2):416-425. doi.org/10.1152/jappphysiol.00219.2022

13. Girts, RM, Harmon, KK, Pagan, JI, Alberto, A, Hernandez, MG, Stock, MS. (2022). The influence of ultrasound image depth and gain on skeletal muscle echo intensity. *Applied Physiology, Nutrition, and Metabolism*, 47: 839-846. [doi: 10.1139/apnm-2021-0810](https://doi.org/10.1139/apnm-2021-0810)
14. Deschenes, MR, Stock, MS. (2022). Editorial: Neuromuscular adaptations to exercise and aging. *Experimental Gerontology*, 160: 111712. [doi: 10.1016/j.exger.2022.111712](https://doi.org/10.1016/j.exger.2022.111712)
15. Harmon, KK, Girts, RM, Pagan, JI, Rodriguez, G, Stock, MS. (2022). The acute effects of action observation on muscle strength/weakness and corticospinal excitability in older adults. *Experimental Brain Research*, 240: 1801-1810. [doi: 10.1007/s00221-022-06370-2](https://doi.org/10.1007/s00221-022-06370-2)
16. MacLennan, RJ, Mota, JA, Thompson, BJ, Stock, MS. (2022). Effects of strength and conditioning on maximal isometric strength, motor unit behavior, and concentric isokinetic peak torque in middle-school boys. *Journal of Strength and Conditioning Research*, 36(5): 1318-1326. [doi: 10.1519/JSC.0000000000003643](https://doi.org/10.1519/JSC.0000000000003643)
17. Stock, M.S., Bodden, M.E., Bloch, J.M., Starnes, K.L., Rodriguez, G., Girts, R.M. (2022). Acute, non-specific low back pain does not impair isometric deadlift force or electromyographic excitation: A cross-sectional study. *Sports*, 10(11), 168. <https://doi.org/10.3390/sports10110168>
18. Peller, A, Suarez, L, Trapuzzano, A, Stock, MS, Dawson, N. (2022). Cognitive and physical indicators of gait speed in the community-dwelling older adult. *OBM Geriatrics*, 6(1): 1-17. [doi:10.21926/obm.geriatr.2201188](https://doi.org/10.21926/obm.geriatr.2201188)
19. Logeson, ZS, MacLennan, RJ, Abad, GKB, Methven, JM, Gradl, MR, Pinto, MD, Pinto, RS, Stock, MS. (2022). The impact of skeletal muscle disuse on distinct echo intensity bands: A retrospective analysis. *PLoS One*, 17(1):e0262553. [doi: 10.1371/journal.pone.0262553](https://doi.org/10.1371/journal.pone.0262553)
20. Neely, L, Pabian, P, Darby, A, Tintor, M, Vatansever, S, Stock, MS. (2022). Examining performance of students on clinical education experiences: Is there an influence from virtual learning? *The Journal of Physical Therapy Education*, 36(4): 277-282. [doi: 10.1097/JTE.0000000000000243](https://doi.org/10.1097/JTE.0000000000000243)

2021

21. Handlery, R, Shover, E, Chhoun, T, Durant, L, Handlery, K, Harrington, SE, Stock, MS, Fritz, SL. (2021). We don't know our own strength: A survey of strength training attitudes, behaviors and knowledge in physical therapists and physical therapy students. *PTJ: Physical Therapy & Rehabilitation Journal*, 1;101(12): pzab204. [doi: 10.1093/ptj/pzab204](https://doi.org/10.1093/ptj/pzab204)
22. Carr, JC, Gerstner, GR, Voskuil, CC, Harden, JE, Dunnick, D, Badillo, KM, Pagan, JI, Harmon, KK, Girts, RM, Beausejour, JP, Stock, MS. (2021). The influence of sonographer experience on skeletal muscle image acquisition and analysis. *Journal of Functional Morphology and Kinesiology*, 6(4): 91: [doi: 10.3390/jfmk6040091](https://doi.org/10.3390/jfmk6040091)

23. Redd, MJ, Starling-Smith, TM, Herring, CH, Wells, AJ, Stock, MS, Stout, JR, Fukuda, DH. (2021). Tensiomyographic responses to warm-up protocols in collegiate male soccer athletes. *Journal of Functional Morphology and Kinesiology*, 6(4): 80. [doi: 10.3390/jfmk6040080](https://doi.org/10.3390/jfmk6040080)
24. Carr, JC, Bembien, MG, Stock, MS, DeFreitas, JM. (2021). Ipsilateral and contralateral responses following unimanual fatigue with and without illusionary mirror visual feedback. *Journal of Neurophysiology*, 125: 2084–2093. [doi: 10.1152/jn.00077.2021](https://doi.org/10.1152/jn.00077.2021)
25. Rothschild, C, Adams, J, Souffront, R, Weed, T, Stock, MS. (2021). The effect of Kinesio Tape on lower extremity kinematics and muscle activation during a unilateral squat. *Orthopaedic Physical Therapy Practice*, 33(3): 138-143.
26. Harmon, KK, Stout, JR, Fukuda, DH, Pabian, PS, Rawson, ER, **Stock, MS**. (2021). The application of creatine supplementation in medical rehabilitation. *Nutrients*, 13, 1825. [doi: 10.3390/nu13061825](https://doi.org/10.3390/nu13061825)
27. Girts, RM, MacLennan, RJ, Harmon, KK, **Stock, MS**. (2021). Is skeletal muscle echo intensity more indicative of voluntary or involuntary strength in young women? *Translational Sports Medicine*, 4(4). [doi: 10.1002/tsm2.234](https://doi.org/10.1002/tsm2.234)
28. Komforti, D, Magras, A, Joffe, C, Peller, A, Garib, R, Garbe, E, Trapuzzano, A, Dawson, N, **Stock, MS**. (2021). Does skeletal muscle morphology or functional performance better explain variance in fast gait speed in older adults? *Aging Clinical and Experimental Research*, 33: 921-931. [doi: 10.1007/s40520-020-01596-y](https://doi.org/10.1007/s40520-020-01596-y)
29. Harmon, KK, Hamilton, AS, Johnson, BD, Bartek, FJ, Girts, RM, MacLennan, RJ, Hahs-Vaughn, DL, **Stock, MS**. (2021). Motor unit action potential amplitude during low torque fatiguing contractions versus high torque non-fatiguing contractions: A multilevel analysis. *European Journal of Applied Physiology*, 121(4): 1145-1157. [doi: 10.1007/s00421-021-04606-7](https://doi.org/10.1007/s00421-021-04606-7)
30. **Stock, MS**, Thompson, BJ. (2021). Echo intensity as an indicator of skeletal muscle quality: applications, methodology, and future directions. *European Journal of Applied Physiology*, 121(2): 369-380. [doi: 10.1007/s00421-020-04556-6](https://doi.org/10.1007/s00421-020-04556-6) *Invited Review*
31. MacLennan, RJ, Ogilvie, D, McDorman, J, Vargas, E, Grusky, AR, Kim, Y, Garcia, JM, **Stock, MS**. (2021). The time course of neuromuscular impairment during short term disuse in young women. *Physiological Reports*, 9:e14677. [doi: 10.14814/phy2.14677](https://doi.org/10.14814/phy2.14677)

2020

32. **Stock, MS**, Oranchuk, DJ, Burton, AM, Phan, DC. (2020). Age, sex, and region-specific differences in skeletal muscle size and quality. *Applied Physiology, Nutrition, and Metabolism*, 45: 1253-1260. [doi:10.1139/apnm-2020-0114](https://doi.org/10.1139/apnm-2020-0114)
33. Mota, JA, Kwon, DP, Kennedy, M, Sobolewski, EJ, Kim, Y, Gonzales, JU, **Stock, MS**. (2020). Compensatory adjustments in motor unit behavior during fatigue differ for younger versus older men. *Aging Clinical and Experimental Research*, 32: 2259-2269. [doi: 10.1007/s40520-019-01438-6](https://doi.org/10.1007/s40520-019-01438-6)

34. Girts, RM, Mota, JA, Harmon, KK, MacLennan, RJ, Stock, MS. (2020). Vastus lateralis motor unit recruitment thresholds are compressed towards lower forces in older men. *Journal of Frailty and Aging*, 9(4): 191-196. doi: [10.14283/jfa.2020.19](https://doi.org/10.14283/jfa.2020.19)
35. Bali, AU, Harmon, KK, Burton, AM, Phan, DC, Mercer, NE, Lawless, NW, Stock, MS. (2020). Muscle strength, not age, explains unique variance in echo intensity. *Experimental Gerontology*, 139: 111047. doi: [10.1016/j.exger.2020.111047](https://doi.org/10.1016/j.exger.2020.111047)
36. Oranchuk, DJ, Stock, MS, Nelson, AR, Storey, AG, Cronin, JB. (2020). Variability of regional quadriceps echo-intensity in active young men. *Applied Physiology, Nutrition, and Metabolism*, 45(7): 745-752. doi: [10.1139/apnm-2019-0601](https://doi.org/10.1139/apnm-2019-0601)
37. MacLennan, RJ, Sahebi, M, Becker, N, Davis, E, Garcia, JM, Stock, MS. (2020). Declines in skeletal muscle quality vs. size following two weeks of knee joint immobilization. *PeerJ* 8:e8224 doi: [10.7717/peerj.8224](https://doi.org/10.7717/peerj.8224)

2019

38. **Stock, MS**, Thompson, BJ, Sobolewski, EJ. (2019). Age-related differences in the predictability of fast gait speed with absolute and rapid squat strength. *Journal of Science in Sport and Exercise*, 1(3): 273-280. doi:[10.1007/s42978-019-00032-6](https://doi.org/10.1007/s42978-019-00032-6) *Invited submission as part of a Special Issue on Strength and Conditioning*
39. Harmon, KK, Girts, RM, MacLennan, RJ, Stock, MS. (2019). Is the motor unit mean firing rate versus recruitment threshold relationship linear? *Physiological Measurement*, 40. doi:[10.1088/1361-6579/ab4025](https://doi.org/10.1088/1361-6579/ab4025)
40. Swafford, AP, Kwon, DP, MacLennan, RJ, Fukuda, DH, Stout, JR, Stock, MS. (2019). No acute effects of placebo or open-label placebo treatments on strength, voluntary activation, and neuromuscular fatigue. *European Journal of Applied Physiology*, 119(10): 2327-2338. doi:[10.1007/s00421-019-04219-1](https://doi.org/10.1007/s00421-019-04219-1)
41. Carr, JC, Ye, X, Stock, MS, Bembem, MG, DeFreitas, JM. (2019). The time course of cross-education during short-term isometric strength training. *European Journal of Applied Physiology*, 119(6): 1395-1407. doi:[10.1007/s00421-019-04130-9](https://doi.org/10.1007/s00421-019-04130-9)

2018

42. Burton, AM, Stock, MS. (2018). Consistency of novel ultrasound equations for estimating percent intramuscular fat. *Clinical Physiology and Functional Imaging*, 38(6): 1062-1066. doi:[10.1111/cpf.12532](https://doi.org/10.1111/cpf.12532)
43. **Stock, MS**, Whitson, M, Burton, AM, Dawson, NT, Sobolewski, EJ, Thompson, BJ. (2018). Echo intensity versus muscle function correlations in older adults are influenced by subcutaneous fat thickness. *Ultrasound in Medicine and Biology*, 44(8):1597-1605. doi:[10.1016/j.ultrasmedbio.2018.04.009](https://doi.org/10.1016/j.ultrasmedbio.2018.04.009)

44. Carr, JC, Stock, MS, Hernandez, JM, Ortegon, JR, Mota, JA. (2018). Additional insight into biarticular muscle function: The influence of hip flexor fatigue on rectus femoris activity at the knee. *The Journal of Electromyography and Kinesiology*, 42:36-43. [doi:10.1016/j.jelekin.2018.06.011](https://doi.org/10.1016/j.jelekin.2018.06.011)
45. Thompson, BJ, Whitson, M, Sobolewski, EJ, Stock, MS. (2018). The influence of advancing age, joint angle, and muscle group on strength production characteristics at the knee joint. *Journal of Gerontology: Series A (Biological Sciences)*, 73(5): 603-607. [doi:10.1093/gerona/glx156](https://doi.org/10.1093/gerona/glx156)
46. Valipoor, S, Pati, D, Stock, MS, Bazuin, D. (2018). Safer chairs for elderly patients: design evaluation using force and electromyography measurements. *Ergonomics*, 61(7): 902-912. [doi:10.1080/00140139.2018.1427804](https://doi.org/10.1080/00140139.2018.1427804)
47. Thompson, BJ, Whitson, M, Sobolewski, EJ, Stock, MS. (2018) Effects of single vs multiple-joint strength tests on age-related maximal and rapid strength capacities. *International Journal of Sports Medicine*, 39: 124-132. [doi:10.1055/s-0043-121149](https://doi.org/10.1055/s-0043-121149)

2017

48. Stock, MS, Mota, JA. (2017). Shifts in the relationship between motor unit recruitment thresholds versus derecruitment thresholds during fatigue. *Medical Engineering & Physics*, 50: 35–42. [doi:10.1016/j.medengphy.2017.08.015](https://doi.org/10.1016/j.medengphy.2017.08.015)
49. Stock, MS, Mota, JA, Hernandez, JH, Thompson, BJ. (2017). Echo intensity and muscle thickness as predictors of athleticism and isometric strength in middle-school boys. *Muscle & Nerve*, 55(5):685–92. [doi:10.1002/mus.25395](https://doi.org/10.1002/mus.25395)
50. Stock, MS, Mota, JA, DeFranco, RN, Grue, KA, Jacobo, AU, Chung, E, Moon, JR, DeFreitas, JM, Beck, TW. (2017). The time course of short-term hypertrophy in the absence of eccentric muscle damage. *European Journal of Applied Physiology*, 117(5):989–1004. [doi:10.1007/s00421-017-3587-z](https://doi.org/10.1007/s00421-017-3587-z)
51. Thompson, BJ, Stock, MS, Mota, JA, Drusch, AS, DeFranco RN, Cook, TN, Hamm, MA. (2017). Adaptations associated with an after-school strength and conditioning program in middle-school aged boys: A quasi-experimental design. *Journal of Strength and Conditioning Research*, 31(10):2840–2851. [doi:10.1519/JSC.0000000000001712](https://doi.org/10.1519/JSC.0000000000001712)
52. Mota, JA, Stock, MS, Thompson, BJ. (2017). Vastus lateralis and rectus femoris echo intensity fail to reflect knee extensor specific tension in middle-school boys. *Physiological Measurement*, 38:1529–1541. [doi:10.1088/1361-6579/aa791a](https://doi.org/10.1088/1361-6579/aa791a)
53. Mota, JA, Stock, MS. (2017). Rectus femoris echo intensity correlates with muscle strength, but not endurance, in younger and older men. *Ultrasound in Medicine and Biology*, 43(8):1651–1657. [doi:10.1016/j.ultrasmedbio.2017.04.010](https://doi.org/10.1016/j.ultrasmedbio.2017.04.010)
54. Thompson, BJ, Stock, MS, Banuelas, VK. (2017). The effects of an accumulating nursing work shift period on performance-based fatigue using multiple maximal and explosive strength measurements in day and night shift nurses. *Human Factors*, 59(3):346–56. [doi:10.1177/0018720816677814](https://doi.org/10.1177/0018720816677814)

2016

55. **Stock, MS, Olinghouse, KD, Mota, JA, Drusch, AS, Thompson, BJ.** (2016). Muscle group specific changes in the electromechanical delay following short-term resistance training. *Journal of Science and Medicine in Sport*, 19:761–5. [doi:10.1016/j.jsams.2015.11.002](https://doi.org/10.1016/j.jsams.2015.11.002)
56. **Stock, MS, Thompson, BJ.** (2016). Motor unit interpulse intervals during high force contractions. *Motor Control*, 20(1):70–86. [doi:10.1123/mc.2014-0089](https://doi.org/10.1123/mc.2014-0089)
57. **Stock, MS, Thompson, BJ.** (2016). Adipose tissue thickness does not affect the electromechanical delay. *Physiological Measurement*, 37:419–29. [doi:10.1088/0967-3334/37/3/418](https://doi.org/10.1088/0967-3334/37/3/418)
58. **Stock, MS, Olinghouse, KD, Drusch, AS, Mota, JA, Hernandez, JM, Akalonu, CC, Thompson, BJ.** (2016). Evidence of muscular adaptations within four weeks of barbell training in women. *Human Movement Science*, 45:7–22. [doi:10.1016/j.humov.2015.11.004](https://doi.org/10.1016/j.humov.2015.11.004)
59. Thompson, BJ, Stock, MS, Banuelas, VK, Akalonu, CC. (2016). The impact of a rigorous multiple shift schedule and day vs night shift work on reaction time and balance in female nurse: a repeated measures study. *Journal of Occupational and Environmental Medicine*, 58(7):737–43. [doi:10.1097/JOM.0000000000000766](https://doi.org/10.1097/JOM.0000000000000766)
60. DeFreitas, JM, Beck, TW, Stock, MS. (2016). Letter to the Editor: The findings of Damas et al. have not influenced the previously proposed time course of skeletal muscle hypertrophy. *European Journal of Applied Physiology*, 116:443–4. [doi:10.1007/s00421-015-3286-6](https://doi.org/10.1007/s00421-015-3286-6)
61. Beck, TW, Young, KC, Stock, MS. (2016). Things aren't always as they seem: Inappropriate use of statistics in sports and health research. *The Journal of Sport and Health Research*, 8(3):177-90. [Link](#)

2015

62. **Mota, JA, Stock, MS, Carrillo, EC, Olinghouse, KD, Drusch, AS, Thompson, BJ.** (2015). Influence of hamstring fatigue on the estimated percentage of fast-twitch muscle fibers for the vastus lateralis. *Journal of Strength and Conditioning Research*, 29(12):3509–16. [doi:10.1519/JSC.0000000000000996](https://doi.org/10.1519/JSC.0000000000000996)
63. Thompson, BJ, **Stock, MS, Shields, JE, Luera, MJ, Munayer, IK, Mota, JA, Carrillo, EM, Olinghouse, KD.** (2015). Barbell deadlift training increases the rate of torque development and vertical jump performance in novices. *Journal of Strength and Conditioning Research*, 29(1):1–10. ***NSCA featured article of the month for January, 2015 and most downloaded manuscript on the JSCR website from 2015-2016.*** [doi:10.1519/JSC.0000000000000691](https://doi.org/10.1519/JSC.0000000000000691)
64. Thompson, BJ, Stock, MS, Conchola, EC. (2015). Effects of age and muscle action type on acute strength and power recovery following fatigue. *AGE*, 37(6):111. [doi:10.1007/s11357-015-9845-2](https://doi.org/10.1007/s11357-015-9845-2)

2014

65. **Stock, MS, Drusch, AS,** Thompson, BJ. (2014). The minimum number of contractions required to examine the EMG amplitude versus isometric force relationship for the vastus lateralis and vastus medialis. *Journal of Electromyography and Kinesiology*, 24:827–34. [doi:10.1016/j.jelekin.2014.10.001](https://doi.org/10.1016/j.jelekin.2014.10.001)
66. **Stock, MS,** Thompson, BJ. (2014). Effects of barbell deadlift training on submaximal motor unit firing rates for the vastus lateralis and rectus femoris. *PLOS One*, 9(12), published online. [doi:10.1371/journal.pone.0115567](https://doi.org/10.1371/journal.pone.0115567)
67. **Stock, MS,** Thompson, BJ. (2014). Sex comparisons of strength and coactivation following ten weeks of deadlift training. *Journal of Musculoskeletal and Neuronal Interactions*, 14(3):387–97. [Link](#)
68. **Stock, MS, Luera MJ.** (2014). Consistency of peak and mean concentric and eccentric force using a novel squat testing device. *Journal of Applied Biomechanics*, 30(2):322–25. [doi:10.1123/jab.2013-0191](https://doi.org/10.1123/jab.2013-0191)
69. **Luera, MJ, Stock, MS, Chappell, ADW.** (2014). Electromyographic amplitude versus concentric and eccentric squat force relationships for monoarticular and biarticular thigh muscles. *Journal of Strength and Conditioning Research*, 28(2):328–38. [doi:10.1519/JSC.0b013e3182a1f434](https://doi.org/10.1519/JSC.0b013e3182a1f434)
70. Thompson, BJ, Conchola, EC, Palmer, TB, Stock, MS. (2014). Effects of aging on maximal and rapid velocity capacities of the leg extensors in young and old men. *Experimental Gerontology*, 58:128–31. [doi:10.1016/j.exger.2014.07.019](https://doi.org/10.1016/j.exger.2014.07.019)
71. Beck, TW, Stock, MS, DeFreitas, JM. (2014). Shifts in EMG spectral power during fatiguing dynamic contractions. *Muscle and Nerve*, 50(1):95–102. [doi:10.1002/mus.24098](https://doi.org/10.1002/mus.24098)
72. Beck, TW, Stock, MS, and DeFreitas, JM. Torque-related changes in mechanomyographic intensity patterns for the superficial quadriceps femoris muscles. (2014). *Computer Methods in Biomechanics and Biomedical Engineering*, 17(7):714–22. [doi:10.1080/10255842.2012.715155](https://doi.org/10.1080/10255842.2012.715155)
73. Ye, X, Beck, TW, Stock, MS, Fahs, CA, Kim, D, Loenneke, JP, Thiebaud, RS, DeFreitas, JM, Rossow, LM, Bemben, DA, Bemben, MG. (2014). Acute effects of wearing an elastic, supportive device on bench press performance in young, resistance-trained males. *Gazzetta Medica Italiana Archivio per le Scienze Mediche*, 173(3):91–101. [Link](#)
74. DeFreitas, JM, Beck, TW, Ye, X, Stock, MS. (2014). Synchronization of low- and high-threshold motor units. *Muscle and Nerve*, 49(4):575–83. [doi:10.1002/mus.23978/](https://doi.org/10.1002/mus.23978/)

2013

75. **Stock, MS,** Beck, TW, DeFreitas, JM, Ye, X. (2013). Sex comparisons for relative peak torque and electromyographic mean frequency during fatigue. *Research Quarterly for Exercise and Sport*, 84(3):345–52. [doi:10.1080/02701367.2013.810538](https://doi.org/10.1080/02701367.2013.810538)
76. **Stock, MS,** Beck, TW, DeFreitas, JM. (2013). Effects of diverting activities on electromyographic amplitude and mean frequency. *Kinesiology (Croatia)*, 45(2):130–8. [Link](#)

77. **Stock, MS**, Beck, TW, DeFreitas, JM. (2013). Peak torque and electromyographic responses during fatiguing isokinetic muscle actions with eyes-open versus eyes-closed. *Perceptual and Motor Skills*, 116(2):581–97. [doi:10.2466/29.26.PMS.116.2.581-597](https://doi.org/10.2466/29.26.PMS.116.2.581-597)
78. **Stock, MS**, Beck, TW, DeFreitas, JM, Ye, X. (2013). Mechanomyographic responses for the biceps brachii are unable to track the declines in peak torque during 25, 50, 75, and 100 fatiguing isokinetic muscle actions. *Journal of Applied Biomechanics*, 29(6):769–78. [doi:10.1123/jab.29.6.769](https://doi.org/10.1123/jab.29.6.769)
79. Beck, TW, Stock, MS, DeFreitas, JM. (2013). Nonparametric decomposition of electromyographic wavelet spectra during concentric and eccentric muscle actions. *Clinical Kinesiology*, 67(2):10–9.

2012

80. **Stock, MS**, Beck, TW, DeFreitas, JM. (2012). Effects of fatigue on motor unit firing rate versus recruitment threshold relationships. *Muscle and Nerve*, 45(1):100–9. [doi:10.1002/mus.22266](https://doi.org/10.1002/mus.22266)
81. Beck, TW, Kasishke, PR, Stock, MS, DeFreitas, JM. (2012). Eccentric exercise does not affect common drive in the biceps brachii. *Muscle and Nerve*, 46(5):759–66. [doi:10.1002/mus.23386](https://doi.org/10.1002/mus.23386)
82. Beck, TW, Stock, MS, DeFreitas, JM. (2012). Effects of fatigue on intermuscular common drive to the quadriceps femoris. *The International Journal of Neuroscience*, 122(10):574–82. [doi:10.3109/00207454.2012.693997](https://doi.org/10.3109/00207454.2012.693997)
83. Beck, TW, Kasishke, PR, Stock, MS, DeFreitas, JM, Ye, X. (2012). A comparison of the effects of concentric versus eccentric exercise on muscle activation patterns. *Clinical Kinesiology*, 66:66–73.
84. DeFreitas, JM, Beck, TW, Stock, MS. (2012). Effects of strength training on mechanomyographic amplitude. *Physiological Measurement*, 33(8):1353–61. [doi:10.1088/0967-3334/33/8/1353](https://doi.org/10.1088/0967-3334/33/8/1353)
85. Beck, TW, Stock, MS, DeFreitas, JM. (2012). Time-frequency analysis of surface electromyographic signals during fatiguing isokinetic muscle actions. *Journal of Strength and Conditioning Research*, 26(7):1904–14. [doi:10.1519/JSC.0b013e318239c1e6](https://doi.org/10.1519/JSC.0b013e318239c1e6)
86. Beck, TW, Stock, MS, DeFreitas, JM. (2012). Differences in muscle activation patterns among the quadriceps femoris muscles during fatiguing isokinetic leg extensions. *Isokinetics and Exercise Science*, 20(1):5–12. [doi:10.3233/IES-2011-0433](https://doi.org/10.3233/IES-2011-0433)
87. Beck, TW, DeFreitas, JM, Stock, MS. (2012). Accuracy of three different techniques for automatically estimating innervation zone location. *Computer Methods and Programs in Biomedicine*, 105(1):13–21. [doi:10.1016/j.cmpb.2010.07.003](https://doi.org/10.1016/j.cmpb.2010.07.003)
88. Beck, TW, Kasishke, PR, Stock, MS, DeFreitas, JM. (2012). Neural contributions to concentric versus eccentric exercise-induced strength loss. *Journal of Strength and Conditioning Research*, 26(3):633–40. [doi:10.1519/JSC.0b013e3182474296](https://doi.org/10.1519/JSC.0b013e3182474296)

89. DeFreitas, JM, Beck, TW, Stock, MS. (2012). A comparison of methods for removing electromagnetic noise from electromyographic signals. *Physiological Measurement*, 33(2):147–58. [doi:10.1088/0967-3334/33/2/147](https://doi.org/10.1088/0967-3334/33/2/147)
90. Beck, TW, Stock, MS, DeFreitas, JM. (2012). Classification of electromyographic intensity patterns after diverting activities. *Clinical Kinesiology*, 66(2):29-38.

2011

91. **Stock, MS**, Beck, TW, DeFreitas, JM. (2011). The effects of diverting activities on recovery from fatiguing concentric isokinetic muscle actions. *Journal of Strength and Conditioning Research*, 25(7):1911–7. [doi:10.1519/JSC.0b013e318220d8dc](https://doi.org/10.1519/JSC.0b013e318220d8dc)
92. **Stock, MS**, Beck, TW, DeFreitas, JM, Dillon, MA. (2011). Test-retest reliability of barbell velocity during the free-weight bench press exercise. *Journal of Strength and Conditioning Research*, 25(1):171–7. [doi:10.1519/JSC.0b013e318201bdf9](https://doi.org/10.1519/JSC.0b013e318201bdf9)
93. DeFreitas, JM, Beck, TW, Stock, MS, Dillon, MA, Kasishke, PR. (2011). An examination of the time course of training-induced skeletal muscle hypertrophy. *European Journal of Applied Physiology*, 111(11):2785–90. [doi:10.1007/s00421-011-1905-4](https://doi.org/10.1007/s00421-011-1905-4)
94. Moon, JR, Stout, JR, Walter, AA, Smith, AE, Stock, MS, Herda, TJ, Sherk, VD, Young, KC, Lockwood, CM, Kendall, KL, Fukuda, DH, Graef, JL, Cramer, JT, Beck, TW, Esposito, EN. (2011). Mechanical scale and load cell underwater weighing: A comparison of simultaneous measurements and the reliability of methods. *Journal of Strength and Conditioning Research*, 25(3):652–61. [doi:10.1519/JSC.0b013e3181e99c2d](https://doi.org/10.1519/JSC.0b013e3181e99c2d)
95. Beck, TW, DeFreitas, JM, Stock, MS. (2011). The effects of an eight week resistance training program on average motor unit firing rates in the vastus lateralis muscle. *Clinical Kinesiology*, 65(1):1-8.
96. Beck, TW, DeFreitas, JM, Stock, MS. (2011). An examination of the influence of the innervation zone on monopolar EMG signals. *Clinical Kinesiology*, 65(2):39-46.
97. Dillon, MA, Beck, TW, DeFreitas, JM, Stock, MS. (2011). Mechanomyographic amplitude and mean power frequency versus isometric force relationships detected in two axes. *Clinical Kinesiology*, 65(3):47-56.
98. Beck, TW, Stock, MS, DeFreitas, JM. (2011). Paired pattern classification of electromyographic intensity patterns during concentric and eccentric muscle actions. *Clinical Kinesiology*, 65(4):76-82.
99. Beck, TW, DeFreitas, JM, Stock, MS, Dillon, MA. (2011). The effects of an eight week resistance training program on force steadiness and common drive in the vastus lateralis muscle. *Muscle and Nerve*, 43(2):245–50. [doi:10.1002/mus.21836](https://doi.org/10.1002/mus.21836)

2010

100. **Stock, MS**, Beck, TW, DeFreitas, JM, Dillon, MA. (2010). Linearity and reliability of the mechanomyographic amplitude versus dynamic torque relationships for the superficial quadriceps femoris muscles. *Muscle and Nerve*, 41:342–49. [doi:10.1002/mus.21491](https://doi.org/10.1002/mus.21491)
101. **Stock, MS**, Young, JC, Golding, LA, Kruskall, LJ, Tandy, RD, Conway-Klaassen, JM, Beck, TW. (2010). The effects of adding leucine to pre and postexercise carbohydrate beverages on acute muscle recovery from resistance training. *Journal of Strength and Conditioning Research*, 24(8):2211–19. [doi:10.1519/JSC.0b013e3181dc3a10](https://doi.org/10.1519/JSC.0b013e3181dc3a10)
102. **Stock, MS**, Beck, TW, DeFreitas, JM, Dillon, MA. (2010). Linearity and reliability of mechanomyographic amplitude versus concentric dynamic constant external resistance relationships for the bench press exercise. *Journal of Strength and Conditioning Research*, 24(3):785–95. [doi:10.1519/JSC.0b013e3181cc22f1](https://doi.org/10.1519/JSC.0b013e3181cc22f1)
103. **Stock, MS**, Beck, TW, DeFreitas, JM, Dillon, MA. (2010). Linearity and reliability of the EMG amplitude versus dynamic torque relationships for the superficial quadriceps femoris muscles. *Electromyography and Clinical Neurophysiology*, 50(2):97–106. [Link](#)
104. **Stock, MS**, Beck, TW, DeFreitas, JM, Dillon, MA. (2010). Linearity and reliability of the mechanomyographic amplitude versus dynamic constant external resistance relationships for the biceps brachii. *Physiological Measurement*, 31(11):1487–98. [doi:10.1088/0967-3334/31/11/006](https://doi.org/10.1088/0967-3334/31/11/006)
105. **Stock, MS**, Beck, TW, DeFreitas, JM, Dillon, MA. (2010). Relationships among peak power output, peak bar velocity, and mechanomyographic amplitude during the free-weight bench press exercise. *Journal of Sports Sciences*, 28(12):1309–17. [doi:10.1080/02640414.2010.499440](https://doi.org/10.1080/02640414.2010.499440)
106. **Stock, MS**, Beck, TW, DeFreitas, JM, Dillon, MA. (2010). An examination of the linearity and reliability of the electromyographic amplitude versus dynamic constant external resistance relationships using monopolar and bipolar recording methods. *Journal of Neuroscience Methods*, 194:94–101. [doi:10.1016/j.jneumeth.2010.09.014](https://doi.org/10.1016/j.jneumeth.2010.09.014)
107. Beck, TW, DeFreitas, JM, Stock, MS, Dillon, MA. (2010). An examination of mechanomyographic signal stationarity during concentric isokinetic, eccentric isokinetic, and isometric muscle actions. *Physiological Measurement*, 31(3):339–61. [doi:10.1088/0967-3334/31/3/005](https://doi.org/10.1088/0967-3334/31/3/005)
108. Beck, TW, DeFreitas, JM, Stock, MS. (2010). An examination of cross-talk among surface mechanomyographic signals from the superficial quadriceps femoris muscles during isometric muscle actions. *Human Movement Science*, 29(2):165–71. [doi:10.1016/j.humov.2009.11.005](https://doi.org/10.1016/j.humov.2009.11.005)
109. Beck, TW, DeFreitas, JM, Stock, MS. (2010). Cross-talk among monopolar surface electromyographic signals from the superficial quadriceps femoris muscles. *Electromyography and Clinical Neurophysiology*, 50(5):245–50. [Link](#) Impact factor = N/A
110. DeFreitas, JM, Beck, TW, Stock, MS, Dillon, MA, Sherk, VD, Stout, JR, Cramer, JT. (2010). A comparison of techniques for estimating training-induced changes in muscle cross-sectional area. *Journal of Strength and Conditioning Research*, 24(9):2383–9. [doi:10.1519/JSC.0b013e3181ec86f3](https://doi.org/10.1519/JSC.0b013e3181ec86f3)

111. Moon, JR, Smith AE, Tobkin, SE, Lockwood, CM, Kendall, KL, Graef, JL, Fukuda, DH, Costa, PB, Stock, MS, Young, KC, Tucker, P, Kim, E, Herda, TJ, Walter, AA, Ferguson, S, Sherk, VD, Cramer, JT, Stout, JR. (2010). Improving the reliability of bioimpedance spectroscopy for tracking changes in total body water: Implications for repeated measurements. *British Journal of Nutrition*, 104:1384–94. doi:10.1017/S0007114510002254
112. Beck, TW, DeFreitas, JM, Stock, MS, Dillon, MA. (2010). Comparison of the muscle activation pattern for the vastus lateralis before and after an 8-week resistance training program. *Biomedical Signal Processing and Control*, 5(4):264–70. doi:10.1016/j.bspc.2010.07.002

2009

113. Beck, TW, Dillon, MA, DeFreitas, JM, Stock, MS. (2009). Cross-correlation analysis of mechanomyographic signals detected in two axes. *Physiological Measurement*, 30(12):1465–71. doi:10.1088/0967-3334/30/12/012
114. Beck, TW, DeFreitas, JM, Stock, MS. (2009). Linearity and reliability of the mechanomyographic amplitude versus submaximal isometric force relationship. *Physiological Measurement*, 30(10):1009–16. doi:10.1088/0967-3334/30/10/002

Textbook Contributions

1. Abbot, H, Taber, C, Stock, MS. Chapter 4: Neuromuscular Response. *The Professionals Guide to Strength and Conditioning: Safe and Effective Principles for Maximizing Athletic Performance*. Nesser, T (Ed). BYU Academic Publishing.
2. Stock, MS. Expert View: The Central Nervous System’s Role in Muscle Strength Adaptation. Published in the 3rd edition of *Exercise Physiology: Integrating Theory and Application* by William J. Kraemer, Steven J. Fleck, and Michael R. Deschenes.

Invited Lectures and Conference Proceedings

1. Stock, MS (Session Chair), Gibala, MJ, Vega, D, Hoogkamer, W. Integrated Technologies for the Next Generation of Sports Sciences. Chaired session at the 41st International Conference on Biomechanics in Sport, 2023, Milwaukee, WI.
2. Stock, MS, Harmon, KK, Girts, RM. Use of transcranial magnetic stimulation to study adaptation within the human neuromuscular system: Lecture and lab! Invited presentation at the 1st Annual Society for Neurosports Conference, 2019, Deerfield Beach, FL.
3. Stock, MS, Burleigh, C. What are dynapenia and sarcopenia? Current treatment approaches in physical therapy. Platform presentation at the Florida Physical Therapy Association Spring Conference, 2019, Orlando, FL.
4. Stock, MS, DeFreitas, JM. The time course of neural and hypertrophic adaptations to short-term resistance training: What’s new? Gary Dudley Memorial Lecture at the NSCA 40th Annual Conference and Exhibition, 2017, Las Vegas, NV.

5. Stock, MS. The use of surface EMG in understanding voluntary muscle function: Insights from the work of Dr. Travis W. Beck. Lecture as part of the 5th Symposium on Motor Control in Biomechanics at American College of Sports Medicine 2017 “Motor Learning, Coordination and Adaptation in Exercise,” 2017, Denver, CO.
6. Stock, MS, Mota, JA. Homogeneity of the relationship between motor unit recruitment thresholds versus derecruitment thresholds across force levels and the lifespan. Podium presentation as part of the “New Insights into the Control Properties of Motor Units” symposium at the XXI International Society of Electrophysiology and Kinesiology Congress, 2016, Chicago, IL.

Peer Reviewed Scientific and Professional Presentations – International and National

* *Students working under my mentorship have been underlined.**

7. Reese, SM, Smith, CM, Shields, JE, Olmos, AA, Voskuil, CC, Ye, X, Stock, MS, Carr, JC, and DeFreitas, JM. The effects of mirror illusion and contraction type on interhemispheric inhibition. Submitted to Neuroscience 2023, Washington D.C.
8. Smith, CM, Reese, SM, Shields, JE, Olmos, AA, Voskuil, CC, Ye, X, Stock, MS, Carr, JC, and DeFreitas, JM. The prevalence of ipsilateral silent periods as a measure of interhemispheric inhibition during mirror illusions. Submitted to Neuroscience 2023, Washington D.C.
9. Carr, JC, Voskuil, CC, Mogonye, J, Burney, CS, Dudar, MD, MacLennan, RJ, Andrushko, JW, DeFreitas, JM, Stock, MS, Farthing, JP. Unilateral training accelerates strength recovery following orthopedic immobilization. Podium presentation at the 2023 National NSCA Conference, Las Vegas, NV, July 13-15, 2023.
10. Beausejour, JP, Pagan, JI, Rodriguez, JP, Sheldon, D, Knowles, KS, Ruple, BA, Plotkin, D, Young, KC, Roberts, MD, Stock, MS. The Effects of Training Near Volitional Failure on Strength and Motor Unit Firing Rates in Resistance-Trained Adults. Poster presentation at the 2023 National NSCA Conference, Las Vegas, NV, July 13-15, 2023.
11. Stock, MS, MacLennan, RJ, Girts, RM, Harmon, KK, Garcia, JM. Participant retention, compensation, and compliance during knee joint immobilization research: An analysis of two clinical trials. Abstract submitted for presentation at the Medical Rehabilitation Research Resource Network's 2nd annual scientific retreat, "Rehabilitation Clinical Trials: Innovations, Designs, and Tribulations," presented via Zoom on September 29 and 30, 2022. [Link to presentations](#)
12. Bodden, ME, Bloch, JM, Starnes, KL, Girts, RM, Stock, MS. Neuromuscular function during isometric deadlifts with conventional versus hexagonal barbells. Poster presentation at the International Society of Sports Nutrition Annual Conference, Fort Lauderdale, FL, June 16-18, 2022.
13. Beausejour, JP, Bohlen, P, Pagan, JI, Girts, RM, Harmon, KK, Hahs-Vaughn, D, Herda, TJ, Stock, MS. A comparison of techniques for verifying the accuracy of motor unit firing rates from surface EMG signal decomposition. Podium presentation at 2022 National Strength and Conditioning Association Annual Conference, New Orleans, LA, July 6-9, 2022.

14. Pagan, JI, Harmon, KK, Girts, RM, MacLennan, RJ, Hernandez-Sarabia, JA, Coker, NA, Carr, JC, Ye, X, Defreitas, JM, Stock, MS. Sex-specific reliability of lower limb corticospinal excitability and silent periods. Podium presentation at 2022 National Strength and Conditioning Association Annual Conference, New Orleans, LA, July 6-9, 2022.
15. MacLennan, RJ, Hernandez-Sarabia, JA, Pagan, JI, Girts, RM, Harmon, KK, Stute, K, Coker, NA, Carr, JC, Ye, X, Stock, MS, DeFreitas, JM. Sensitivity of fNIRS brain imaging to determine hemispheric laterality during lower-body motor tasks. Poster presentation at the American College of Sports Medicine Annual Meeting, 2022, San Diego CA.
16. Neely, L, Darby, A, Tintor M, Vatanever, S, Pabian, P, Stock, MS. The impact of virtual learning on student clinical performance: Perceptions of clinical instructors. Podium presentation at the American Physical Therapy Association Academy of Education's Education Leadership Conference, Atlanta, GA, October 22-24, 2021.
17. Girts, RM, Harmon, KK, Stock, MS. Optimizing B-Mode Ultrasonography Research Methodology: Does Image Depth Influence Echo Intensity? Poster presentation at the International Society of Sports Nutrition 18th Annual Conference, St. Petersburg, FL, June 10-12, 2021.
18. Ramezani, S, Dranetz, JM, Stock, MS, Choi, H. Electromyographic evaluation of individual muscle contributions predicted in two musculoskeletal models. Virtual presentation at the Gait and Clinical Movement Analysis Society 2021 Annual Conference.
19. Carroll, M, Hou S, Highsmith, MJ, Stock, MS, Choi, H. Predicting device tolerance using the technology acceptance model: A theoretical introduction. Poster presentation session at the American Academy of Orthotists and Prosthetists National Meeting, New Orleans, LA, May 2021.
20. Carroll, M, Harold N, Highsmith, MJ, Ulric, A, Latief, G, Courtade, A, Conroy B, Phillips S, Hou S, Stock MS, Choi H, Boone D. Perceptions and use of the transtibial smart adaptive socket. Poster presentation session at the American Academy of Orthotists and Prosthetists National Meeting, New Orleans, LA, May 2021.
21. Dranetz, JM, Ramezani, S, Stock, MS, Carroll, M, Varro, M, Yeo, W, Bagci, U, Cornell, H, Choi, H. Identifying the role of residual gastrocnemius in isometric knee flexion of below knee amputees. Virtual presentation at the Annual Meeting of the American Society of Biomechanics, Atlanta, GA, August 4-7, 2020.
22. Ramezani, S, Dranetz, JM, Stock, MS, Choi, H. Validation of musculoskeletal models using single degree of freedom analysis. Virtual presentation at the Annual Meeting of the American Society of Biomechanics, Atlanta, GA, August 4-7, 2020.
23. Pagan, JI, Harmon, KK, Girts, RM, Rodriguez, G, MacLennan, RJ, Hernandez Sarabia, JA, Coker, NA, Carr, JC, Ye, X, DeFreitas, JM, Stock, MS. Minimizing interpulse variability in corticospinal excitability: How many TMS pulses are optimal? Virtual presentation at the 2020 NSCA National Conference, Las Vegas, NV, July 8-11, 2020.

24. Harmon, KK, Girts, RM, Pagan, JI, Rodriguez, G, MacLennan, RJ, Hernandez Sarabia, JA, Coker, NA, Carr, JC, Ye, X, DeFreitas, JM, Stock, MS. Test-retest reliability of corticospinal excitability and inhibition of an agonist-antagonist pair. Virtual presentation at the 2020 NSCA National Conference, Las Vegas, NV, July 8-11, 2020.
25. Girts RM, Mota JA, Harmon KK, Stock MS. Optimizing B-mode ultrasonography research methodology: Does image depth influence echo intensity? Virtual presentation at the National Strength and Conditioning Association National Conference, Las Vegas, NV, July 8-11, 2020.
26. Marsala, M, Christie, A, Stock, MS, Fukuda, D, Garcia, J. Measurement of muscle thickness in the forearms of rock climbers using ultrasound. Poster presentation at the American College of Sports Medicine 67th Annual Meeting, 2020, San Francisco, CA.
27. MacLennan, RJ, Swafford, AP, Kwon, DP, DeFreitas, JM, Stock, MS. Do decreases in voluntary activation account for fatigability differently in males and females? Poster presentation at the American College of Sports Medicine 67th Annual Meeting, 2020, San Francisco, CA.
28. Harmon KK, Girts RM, MacLennan RJ, Stock MS. Do low force isometric contractions performed to exhaustion recruit high threshold motor units similar to non-fatiguing high force isometric tasks? Poster presentation at the 1st Annual Society for Neurosports Conference, 2019, Deerfield Beach, FL.
29. Girts, RM, MacLennan RJ, Harmon, KK, Stock MS. Changes in muscle size, muscle quality, and voluntary activation do not predict muscle weakness following two weeks of knee joint immobilization. Poster presentation at the 1st Annual Society for Neurosports Conference, 2019, Deerfield Beach, FL.
30. Peller, A, Garib, R, Garbe, E, Trapuzzano, A, Stock, MS, Dawson, NT. Validity and reliability of the NIH Toolbox Standing Balance Test as compared to Biodex Balance SD. Poster presentation at CSM 2020 - Combined Sections Meeting of the American Physical Therapy Association, 2020, Denver, CO.
31. Komforti, D, Joffe, C, Magras, A, Peller, A, Garbe, E, Garib, R, Trapuzzano, A, Stock, MS, Dawson, NT. Form \neq Function: Fast gait speed in older adults is best predicted by functional performance. Poster presentation at CSM 2020 - Combined Sections Meeting of the American Physical Therapy Association, 2020, Denver, CO.
32. Carr, JC, Stock, MS, Bembem, MG, DeFreitas, JM. Illusionary mirror visual feedback during unilateral fatigue affects contralateral rapid force but not strength. Podium presentation at the NSCA 42nd Annual Conference and Exhibition, 2019, Washington, DC.
33. MacLennan, RJ, Ogilvie, D, Sahebi, M, McDorman, J, Davis, E, Becker, N, Vargas, E, Stock, MS. Declines in muscle strength and voluntary activation are observed within 48 hours of knee joint immobilization. Podium presentation at the NSCA 42nd Annual Conference and Exhibition, 2019, Washington, DC.
34. Bali, AU, Thompson, BJ, Sobolewski, EJ, Stock, MS. Age-related changes in the predictability of fast gait speed with muscle strength. Poster presentation at the NSCA 42nd Annual Conference and Exhibition, 2019, Washington, DC.

35. Stock, MS, Mota, JA, Kwon, DP, Kennedy, M, Sobolewski, EJ, Kim, Y, Gonzales, JU. Compensatory adjustments in motor unit behavior during fatigue differ in younger versus older men. Podium presentation at the International Conference on Frailty and Sarcopenia Research, 2019, Miami, FL.
36. Kwon, DP, Swafford, AP, Fukuda, DH, Stout, JR, Stock, MS. No acute effects of placebo or open-label placebo supplementation on strength and neuromuscular fatigue. Poster presentation at the American College of Sports Medicine 66th Annual Meeting, 2019, Orlando, FL.
37. MacLennan, RJ, Ogilvie, D, McDorman, J, Vargas, E, Sahebi, M, Becker, N, Davis, E, Stock, MS. The motor unit mean firing rate versus recruitment threshold relationship is unaffected by short-term disuse. Poster presentation at the American College of Sports Medicine 66th Annual Meeting, 2019, Orlando, FL.
38. Sahebi, M, MacLennan, RJ, Becker, N, Davis, E, Ogilvie, D, McDorman, J, Vargas, E, Stock, MS. Vastus lateralis muscle quality deteriorates more so than muscle size during knee joint immobilization. Poster presentation at the American College of Sports Medicine 66th Annual Meeting, 2019, Orlando, FL.
39. Girts, RM, Mota, JA, Harmon, KK, MacLennan, RJ, Stock, MS. Vastus lateralis recruitment thresholds in younger versus older men. Poster presentation at the American College of Sports Medicine 66th Annual Meeting, 2019, Orlando, FL.
40. Harmon, KK, Girts, RM, MacLennan, RJ, Stock, MS. Is the mean firing rate versus recruitment threshold relationship linear? Poster presentation at the American College of Sports Medicine 66th Annual Meeting, 2019, Orlando, FL.
41. Burton, AM, Stock, MS. Interactions among age, sex, and scanning location in the assessment of rectus femoris echo intensity. Poster presentation at the American College of Sports Medicine 66th Annual Meeting, 2019, Orlando, FL.
42. Sluis, KV, Kornman, AF, Groen, WG, Stock, MS, Stuiiver, MS, van den Brekel, MWM, Woodson, G Hoffman-Ruddy, B. The effectiveness of device-driven Expiratory Muscle Strength Training (EMST) in total laryngectomy patients: A pilot study. Poster presented as part of the Sixth World Congress of the International Federation of Head and Neck Oncologic Societies, 2018, Buenos Aires, Argentina.
43. Church, DD, Hoffman, JR, Coker, NA, Stock, MS, Boffey, D, Herring, CH, Varanoske, AN, Frosti, CL, Starich, T, Fukuda, DH, Stout, JR. Relationships between short-term resistance training adaptations and brain derived neurotrophic factor. Poster presentation at the NSCA 41st Annual Conference and Exhibition, 2018, Indianapolis, IN.
44. Carr, JC, Ye, X, Stock, MS, Wages, NP, DeFreitas, JM. Is the magnitude of cross education dependent on initial strength levels? Podium presentation at the NSCA 41st Annual Conference and Exhibition, 2018, Indianapolis, IN.
45. MacLennan, RJ, Stock, MS, Mota, JA, Thompson, BJ. The motor unit mean firing rate versus recruitment threshold relationship is unaffected by strength and conditioning participation in middle-

school boys. Poster presentation at the NSCA 41st Annual Conference and Exhibition, 2018, Indianapolis, IN.

46. Swafford, AP, Stock, MS, Kwon, DP, MacLennan, RJ, Fukuda, DH, Stout, JR. Effects of placebo versus open-label placebo on fatigue resistance during repeated maximal strength testing: Preliminary results. Podium presentation at the NSCA 41st Annual Conference and Exhibition, 2018, Indianapolis, IN.
Winner of the M.S. Student Podium Presentation Award
47. Stock, MS, Hernandez, JM, Ortegon, JR, Mota, JA, Carr, JC. Additional insight into biarticular muscle function: the influence of hip flexor fatigue on rectus femoris activity at the knee. Podium presentation at XXII Congress of the International Society of Electrophysiology and Kinesiology, June 30 – July 2, 2018, Dublin, Ireland.
48. Carr, JC, Ye, X, Stock, MS, Wages, NP, Bembem, MG, DeFreitas, JM. Contralateral adaptations in rate of force development and rate of muscle activation following unilateral isometric training. Poster presentation at XXII Congress of the International Society of Electrophysiology and Kinesiology, June 30 – July 2, 2018, Dublin, Ireland.
49. Stock, MS, Whitson, M, Burton, AM, Dawson, NT, Thompson, BJ, Sobolewski, EJ. The correlation between fast gait speed and echo intensity is influenced by subcutaneous tissue thickness. Poster presentation at the International Conference on Frailty and Sarcopenia Research, 2018, Miami, FL.
50. Hanney, WJ, Kolber, MJ, Stock, MS, Liu, X, Masaracchio, M. Characteristics of recreational weight trainers that utilize weight-lifting belts. Poster presentation at the NSCA 40th Annual Conference and Exhibition, 2017, Las Vegas, NV.
51. Stock, MS, Mota JA, Thompson, BJ. Quadriceps femoris echo intensity fails to reflect specific tension in middle-school boys. Poster presentation at the NSCA 40th Annual Conference and Exhibition, 2017, Las Vegas, NV.
52. Stock, MS, Mota, JA. Vastus lateralis motor unit firing rate statistics during fatigue in younger versus older adults. Poster presentation at Experimental Biology 2017, Chicago, IL.
53. Valipoor, S, Pati, D, Stock, MS, Bazuin, D. Design for older patients: An objective evaluation of patient chairs at hospitals. Poster presentation at the 8th International Conference on Applied Human Factors and Ergonomics, 2017, Los Angeles, CA.
54. Valipoor, S, Pati, D, Stock, MS, Bazuin, D. Patient safety and furniture design: an objective evaluation of seating solutions for the elderly. Poster presentation at the Environmental Design Research Association 48th Annual Conference, 2017, Madison, WI.
55. Mota, JA, Stock, MS, Hernandez, JA, Thompson, BJ. Quadriceps femoris echo intensity and muscle thickness as independent predictors of athleticism in middle-school boys. Poster presentation at the NSCA 39th Annual Conference and Exhibition, 2016, New Orleans, LA.

56. Thompson, BJ, Banuelas, BK, Stock, MS. Lower body strength-based fatigue responses of a typically demanding, multi-shift work period in female nurses. Poster presentation at the American College of Sports Medicine 63rd Annual Meeting, 2016, Boston, MA.
57. Thompson, BJ, Banuelas, BK, Akalonu, C, Stock, MS, Diersing, D. Effects of shift type, job position and a rigorous work period on physical- and performance-related attributes in female nursing workers. Poster presentation at the International Society of Sports Nutrition 12th Annual Conference, 2015, Austin, TX.
58. Drusch, AS, Sobolewski, EJ, Stock, MS, Thompson, BJ, Kittley, Z, Fehoko, S, Mota, JA, Lochbaum, MR. Physical maturation of pre-adolescent boys and girls during performance measures of power and agility. Poster presentation at the NSCA 38th Annual Conference and Exhibition, 2015, Orlando, FL.
59. Thompson, BJ, Banuelas, VK, Akalonu, C, Stock, MS. Does a rigorous multi-shift work schedule impact balance, response time, and strength-related performances in female healthcare workers? Poster presentation at the NSCA 38th Annual Conference and Exhibition, 2015, Orlando, FL.
60. Stock, MS, Thompson, BJ. Motor unit interpulse intervals during high force contractions. Poster presentation at the NSCA 38th Annual Conference and Exhibition, 2015, Orlando, FL.
61. Mota, JA, Stock, MS, Olinghouse, KD, Drusch, AS, Hernandez, J, Akalonu, C, Thompson, BJ. Peak torque and electromyographic amplitude responses to short-term barbell training in women. Poster presentation at the NSCA 38th Annual Conference and Exhibition, 2015, Orlando, FL.
62. Mota, JA, Thompson, BJ, Olinghouse, KD, Carrillo, EM, Munayer, IK, Luera, MJ, Shields, JE, Drusch, AS, Stock, MS. Barbell deadlift training increases the rate of torque development and vertical jump performance in novices. Poster presentation at the NSCA 37th Annual Conference and Exhibition, 2014, Las Vegas, NV. ****Winner of the Undergraduate Student Presentation Award****
63. Thompson, BJ, Conchola, EC, Stock, MS, Palmer, TB. Influence of aging on rapid velocity characteristics and relationships with peak torque of the leg extensors. Poster presentation at the NSCA 37th Annual Conference and Exhibition, 2014, Las Vegas, NV.
64. Drusch, AS, Stock, MS, Thompson, BJ. How many contractions are required to assess the electromyographic amplitude versus isometric force relationship? Poster presentation at the NSCA 37th Annual Conference and Exhibition, 2014, Las Vegas, NV.
65. Carrillo, EM, Stock, MS, Mota, JA, Drusch, AS, Olinghouse, KD, Thompson, BJ. Influence of hamstrings fatigue on quadriceps data during repeated, maximal isokinetic strength testing. Poster presentation at the NSCA 37th Annual Conference and Exhibition, 2014, Las Vegas, NV.
66. Luera, MJ, Stock, MS. Electromyographic amplitude versus average concentric and eccentric squat force relationships. Poster presentation at the NSCA 36th Annual Conference and Exhibition, 2013, Las Vegas, NV.

67. Shields, JE, Stock, MS, Luera, MJ. Test-retest reliability of peak and average concentric and eccentric isovelocity squat force. Poster presentation at the NSCA 36th Annual Conference and Exhibition, 2013, Las Vegas, NV.
68. Travis, WJ, Stock, MS, Luera, MJ. Relationship between the anthropometric estimation of unilateral thigh muscle cross-sectional area and peak eccentric squat force. Poster presentation at the NSCA 36th Annual Conference and Exhibition, 2013, Las Vegas, NV.
69. DeFreitas, JM, Beck, TW, Stock, MS. The effects of strength training on the synchronization and net post-synaptic potentials of both low- and high-threshold motor units. Poster presentation at the NSCA 35th Annual Conference and Exhibition, 2012, Providence, RI.
70. Ye, X, Beck, TW, Fahs, CA, Kim, D, Loenneke, JP, Thiebaud, RS, Rossow, LM, Kim, E, Stock, MS, Bembien, DA, Bembien, MG. Acute effects of an elastic device on bench press strength and prime mover muscle activation in college-aged resistance trained males. Poster presentation at the NSCA 35th Annual Conference and Exhibition, 2012, Providence, RI.
71. Stock, MS, Beck, TW, DeFreitas, JM, Ye, X. Gender comparisons of relative peak torque and electromyographic mean frequency during repeated maximal concentric isokinetic muscle actions. Poster presentation at the NSCA 35th Annual Conference and Exhibition, 2012, Providence, RI.
72. DeFreitas, JM, Beck, TW, Stock, MS. An examination of motor unit firing rate and recruitment properties as a mechanism for the cross-education of strength. Neuroscience 2011, Washington D.C.
73. Stock, MS, Beck, TW, DeFreitas, JM. Motor unit recruitment threshold versus de-recruitment threshold relationships for the vastus lateralis and vastus medialis. Podium presentation at the NSCA 34th Annual Conference and Exhibition, 2011, Las Vegas, NV.
74. DeFreitas, JM, Beck, TW, Stock, MS, Kasishke, PR. A re-examination of the efficiency of electrical activity technique (EEA) for identifying the neural versus hypertrophic contributions in the time course of strength gains. Poster presentation at the American College of Sports Medicine 58th Annual Meeting, 2011, Denver, CO.
75. Stock, MS, Beck, TW, DeFreitas, JM, Dillon, MA. The minimal difference needed to be considered real and the standard error of measurement for examining barbell velocity during the bench press. Poster presentation at the NSCA 33rd Annual Conference and Exhibition, 2010, Orlando, FL.
76. Stock, MS, Young, JC, Golding, LA, Kruskall, LJ, Tandy, RD, Conway-Klaassen, J. The effects of adding leucine to a carbohydrate-electrolyte beverage on muscle damage, soreness, and performance. *Medicine & Science in Sports & Exercise*, 41(5 Suppl): S577. Poster presentation at the American College of Sports Medicine 56th Annual Meeting, 2009, Seattle, WA.
77. Stock, MS, Beck, TW, DeFreitas, JM, Dillon, MA. Linearity and reliability of the EMG amplitude versus dynamic torque relationships for the vastus lateralis. Poster presentation at the NSCA 32nd Annual Conference and Exhibition, 2009, Las Vegas, NV.

Peer Reviewed Scientific and Professional Presentations – Regional

* *Students working under my mentorship have been underlined.**

1. Luzadder, M, Osorio, C, Menger, R, Pagan, JI, Wilson, AT, Hanney, WJ, Stout, JR, **Stock, MS**. Functional resistance training improves timed up and go performance among older adults: Results from a 6-week randomized controlled trial. Poster presentation at the 2023 Florida Physical Therapy Association Annual Conference, Orlando, FL, USA.
2. Reese, SM, Smith, CM, Olmos, AA Shields, JE, Voskuil, CC, Ye, X, Stock, MS, Carr, JC, DeFreitas, JM. Does the type of contraction performed during mirror illusion alter hemispheric communication? A preliminary analysis. Poster presentation at the 2023 Central States American College of Sports Medicine Meeting, Tulsa, OK.
3. Beausejour, JP, Voskuil, CC, Harden, JE, Dunnick, D, Badillo, KM, Pagan, JI, Harmon, KK, Girts, RM, Carr, JC, Gerstner, GR, **Stock, MS**. The influence of sonographer experience on measurements of skeletal muscle cross-sectional area. Poster presentation at the 2022 Southeast American College of Sports Medicine Meeting, Greenville, SC.
4. Pagan, JI, Harmon, KK, Girts, RM, Rodriguez, G, MacLennan, RJ, Hernandez Sarabia, JA, Coker, NA, Carr, JC, Ye, X, DeFreitas, JM, **Stock, MS**. Reliability of TMS measures of lower limb corticospinal excitability. Poster presentation at the 2022 Southeast American College of Sports Medicine Meeting, Greenville, SC.
5. Harmon KK, Girts RM, MacLennan RJ, Stock MS. Changes in recruitment thresholds as a compensatory strategy during neuromuscular fatigue. Poster presentation at the 2020 Southeast American College of Sports Medicine Meeting, Jacksonville, FL.
6. Girts RM, MacLennan RJ, Harmon KK, Stock MS. Skeletal muscle echo intensity: Indicative of voluntary or involuntary strength? Poster presentation at the 2020 Southeast American College of Sports Medicine Meeting, Jacksonville, FL.
7. MacLennan, RJ, Swafford, AP, Kwon, DP, DeFreitas, JM, Stock, MS. Do decreases in voluntary activation account for fatigability differently in males and females? Poster presentation at the 2019 Central States American College of Sports Medicine Meeting, Broken Arrow, OK.
8. Mota, JA, Stock, MS. The time course of short-term hypertrophy in the absence of eccentric muscle damage. Poster presentation at the 2017 Southeast American College of Sports Medicine Meeting, Greenville, SC.
9. Stock, MS, Mota, JA. Shifts in the relationship between motor unit recruitment thresholds versus derecruitment thresholds during fatigue. Poster presentation at the 2017 Southeast American College of Sports Medicine Meeting, Greenville, SC.
10. Hernandez, JM, Stock, MS, Mota, JA. Age-related differences in vastus lateralis muscle thickness versus echo intensity. Poster presentation at the Texas American College of Sports Medicine Annual Meeting, 2016, College Station, TX.

11. Mota, JA, Stock, MS. Homogeneity of the inverse relationship between motor unit recruitment threshold and firing rate across the lifespan. Poster presentation at the Texas American College of Sports Medicine Annual Meeting, 2016, College Station, TX. *Finalist for best M.S. student presentation.
12. Stock, MS, Mota, JA. Muscle group specific changes in the electromechanical delay following short-term resistance training. Poster presentation at the Texas Tech University Health Sciences Center Gender-Specific Medicine & Women's Health Symposium. *3rd place award winner
13. Mota, JA, Stock, MS, Olinghouse, KD, Drusch, AS, Thompson, BJ. Leg lean mass adaptations following short-term barbell training in women. Poster presentation at the Texas American College of Sports Medicine Annual Meeting, 2015, Austin, TX. *Finalist for best M.S. student presentation.
14. Drusch, AS, Mota, JA, Olinghouse, KD, Stock, MS, Thompson, BJ. Relationships among maximal and explosive strength production of the leg extensors and vertical jump peak power output in female youth volleyball athletes. Poster presentation at the Texas American College of Sports Medicine Annual Meeting, 2015, Austin, TX. *Finalist for best M.S. student presentation.
15. Carrillo, EM, Stock, MS, Mota, JA, Olinghouse, KD, Drusch, AS, Thompson, BJ. Isokinetic fatigue characteristics for the leg extensors versus flexors. Poster presentation at the Texas American College of Sports Medicine Annual Meeting, 2014, Fort Worth, TX.
16. Drusch, AS, Carrillo, EM, Mota, JA, Olinghouse, KD, Stock, MS, Lochbaum, MR, Thompson, BJ. Relationships between anthropometric and performance variables in youth: Predictors of lower-body vertical jump peak power. Poster presentation at the Texas American College of Sports Medicine Annual Meeting, 2014, Fort Worth, TX.
17. Mota, JA, Stock, MS, Olinghouse, KD, Carrillo, EM, Munayer, IK, Shields, JE, Luera, MJ, Thompson, BJ. Linear progression for increased external loads during strength training. Poster presentation at the Texas American College of Sports Medicine Annual Meeting, 2014, Fort Worth, TX.
18. Olinghouse, KD, Stock, MS, Mota, JA, Carrillo, EM, Munayer, IK, Shields, JE, Luera, MJ, Thompson, BJ. Effects of a ten week barbell deadlift training program on vertical jump height in college-aged women. Poster presentation at the Texas American College of Sports Medicine Annual Meeting, 2014, Fort Worth, TX.
19. Shields, JE, Stock, MS, Luera, MJ, Munayer, IK, Young, JC. Creatine kinase, lactate dehydrogenase, and myoglobin responses following repeated Wingate anaerobic tests versus barbell back squats: a pilot study. Poster presentation at the Texas American College of Sports Medicine Annual Meeting, 2013, Austin, TX.
20. Munayer, IK, Stock, MS, Luera, MJ, Shields, JE. Relationship between one repetition maximum strength and peak power output for the free-weight bench press exercise. Poster presentation at the Texas American College of Sports Medicine Annual Meeting, 2013, Austin, TX.
21. Luera, MJ, Stock, MS, Shields, JE, Munayer, IK. Effects of diverting activities on recovery from repeated maximum voluntary contractions. Poster presentation at the Texas American College of Sports Medicine Annual Meeting, 2013, Austin, TX.

Research Grants in Review

Source: National Institutes on Aging
Title: Resistance Training Specificity Among Older Adults
Role: Co-PI
Co-Is: Kylie K. Harmon (Syracuse University), Jeffrey R. Stout, Debbie Hahs-Vaughn
Period: 2024-2029
Description: The purpose of this multi-site clinical trial is to compare resistance training paradigms on muscle strength adaptations and adherence in older adults with sarcopenia

Source: National Institutes on Aging
Title: Age and Sex Differences in Neuromuscular Plasticity During Disuse and Rehabilitation
Role: PI
Co-Is: Bret H. Goodpaster, Heather Cornell, Jeffrey R. Stout, Meredith Chaput, Joon-Hyuk Park
Period: 2024-2029
Description: This multi-phase clinical trial will examine the influence of 10 days of knee joint immobilization followed by 8 weeks of rehabilitation among younger and older males and females

Funded External Research Grants

Source: De Luca Foundation Research Grant (\$15,000)
Title: The time course of motor unit adaptations associated with disuse
Student: Rob J. MacLennan
Role: PI/Mentor
Period: 2017–2018
Description: The purpose of this study was to examine the time course of neuromuscular adaptations to two weeks of knee joint immobilization in college-aged females
Publications: [DOI: 10.7717/peerj.8224](https://doi.org/10.7717/peerj.8224), [DOI: 10.14814/phy2.14677](https://doi.org/10.14814/phy2.14677), [DOI: 10.1371/journal.pone.0262553](https://doi.org/10.1371/journal.pone.0262553)

Source: NSCA Foundation – Graduate Student Research Grant (\$5,403)
Title: Effects of age and muscle length parameters on single- versus multiple-joint lower-body strength expression: Implications for functional performance outcomes
Student: Morgan Whitson
Role: Co-I (PI: Brennan J. Thompson; Co-I: Eric J. Sobolewski)
Period: 2015–2016
Description: The purpose of this study was to examine how age and testing modality (squatting versus single-joint isokinetics) influence performance
Publications: [DOI: 10.1093/gerona/glx156](https://doi.org/10.1093/gerona/glx156), [DOI: 10.1055/s-0043-121149](https://doi.org/10.1055/s-0043-121149)

Source: NSCA Foundation – Young Investigator Grant (\$19,991)
Title: Adaptations to an after-school high-intensity conditioning program in youth
Role: PI (Co-I: Brennan J. Thompson)
Period: 2014–2016
Description: The purpose of this study was to examine the effects of after-school strength and conditioning programs on middle-school boys in Lubbock, TX
Publications: [DOI: 10.1002/mus.25395](https://doi.org/10.1002/mus.25395), [DOI: 10.1088/1361-6579/aa791a](https://doi.org/10.1088/1361-6579/aa791a), [DOI: 10.1519/JSC.0000000000001712](https://doi.org/10.1519/JSC.0000000000001712), [DOI: 10.1519/JSC.00000000000003643](https://doi.org/10.1519/JSC.00000000000003643)

Source: National Institute of Occupational Safety and Health (NIOSH) – Pilot Project Research Training Program grant (Sponsored through the University of Texas Public School of Health) (\$10,000)
Title: The effects of work schedule characteristics on fatigue and performance capacities in female healthcare workers: Injury risk profiling assessment
Role: Co-I (PI: Brennan J. Thompson)
Period: 2014–2015
Description: The purpose of this study was to examine how work schedules influence fatigue and performance in healthcare
Publications: [DOI: 10.1097/JOM.0000000000000766](https://doi.org/10.1097/JOM.0000000000000766), [DOI: 10.1177/0018720816677814](https://doi.org/10.1177/0018720816677814)

Source: NSCA Foundation – Graduate Student Research Grant (\$6,580)
Title: Muscle architectural changes during short-term squat and deadlift training
Student: Kendra D. Olinghouse
Role: PI/Mentor (Co-I: Brennan J. Thompson)
Period: 2014–2015
Description: The purpose of this study was to examine the time course of neuromuscular adaptations to short-term barbell squat and deadlift training in college-aged females
Publications: [DOI: 10.1016/j.humov.2015.11.004](https://doi.org/10.1016/j.humov.2015.11.004), [DOI: 10.1016/j.jsams.2015.11.002](https://doi.org/10.1016/j.jsams.2015.11.002)

Funded Internal Research Grants

Source: LIFE at UCF Gerontology Applied Research Program Grant (\$6,229)
Title: A Grip on LIFE: Neuromuscular determinants of grip strength in older adults with sarcopenia
Student: Jonathan P. Beausejour
Role: PI/Mentor
Period: 2023–2024
Description: The purpose of this study is to determine the neuromuscular determinants of grip strength among older adults with sarcopenia

Source: LIFE at UCF Gerontology Applied Research Program Grant (\$6,290)
Title: A comparison of machine and free-weight versus functional resistance training exercise programs in older adults
Students: Jason I. Pagan and Jonathan P. Beausejour
Role: PI/Mentor
Period: 2022–2023
Description: The purpose of this study is to examine the role of exercise specificity in resistance training adaptations among older adults

Source: LIFE at UCF Gerontology Applied Research Program Grant (\$5,040)
Title: Project MNOP (Mirror Neurons in Older Participants): Acute effects of action observation on muscle strength/weakness and neurophysiological factors in older adults
Student: Kylie Harmon
Role: PI/Mentor
Period: 2019–2020

Description: The purpose of this study was to examine the acute effects of a novel action observation intervention on rapid and absolute strength and corticospinal excitability in older adults

Publication: [DOI: 10.1007/s00221-022-06370-2](https://doi.org/10.1007/s00221-022-06370-2)

Source: LIFE at UCF Gerontology Applied Research Program Grant (\$7,300)

Title: Investigating the unique predictors of comfortable and fast gait speed in community dwelling older adults

Student: Ashleigh Trapuzzano

Role: Co-I (PI: Nicole Dawson)

Period: 2018–2019

Description: The purpose of this study was to determine which performance and body composition outcomes were most strongly associated with measures of gait speed in older adults

Publications: [DOI: 10.1007/s40520-020-01596-y](https://doi.org/10.1007/s40520-020-01596-y), [DOI: 10.1080/09593985.2022.2027584](https://doi.org/10.1080/09593985.2022.2027584)

Source: UCF Office of Research & Commercialization In-House Research Grant (\$7,426)

Title: The time course of neuromuscular adaptations to knee joint immobilization

Role: PI

Period: 2018-2019

Description: The purpose of this study was to examine the time course of neuromuscular adaptations to two weeks of knee joint immobilization in college-aged females

Publications: [DOI: 10.7717/peerj.8224](https://doi.org/10.7717/peerj.8224), [DOI: 10.14814/phy2.14677](https://doi.org/10.14814/phy2.14677), [DOI: 10.1371/journal.pone.0262553](https://doi.org/10.1371/journal.pone.0262553)

Funded University Research Support

1. University of Central Florida College of Health and Public Affairs Sponsored Research Incentive (\$2,500; Spring 2017).
2. Learning Institute for Elders (LIFE) at the University of Central Florida Funding for David Phan's undergraduate student project (\$500; Spring 2017).
3. Financial support (\$500) through University of Central Florida Office of Undergraduate Research for research support, Student: David Phan (Spring 2017).
4. Financial support (\$720) through Texas Tech University Center for Active Learning and Undergraduate Engagement for project titled "Pacing associated with fatiguing, maximal strength testing." Student: Alex Johnson (Summer 2014).
5. Financial support (\$1,000) through Texas Tech University Center for Active Learning and Undergraduate Engagement for project titled "Does hamstring activity influence quadriceps fatigue during the Thorstensson test?" Student: Jacob Mota (Fall 2013).

Acquisition of Laboratory Equipment to Support Research

1. Impedimed SFB7. Retail value of \$6,000, 2017.
2. DJO Global Deluxe Universal Knee Immobilizers. Retail value of \$50, 2015.

3. VibraTrim VT400 Vibration Platform device. Retail value of \$1,999, 2013.
4. Tendo Weightlifting Analyzer and a single station interface with computer software. Retail value of \$2,348, 2013.
5. Surge 360 Performance Training unit. Retail value of \$1,995, 2013.

Unfunded Grant Attempts (External and Internal)

- 2023 Department of Defense FY23 Broad Agency Announcement for Extramural Medical Research
Project Title: Unilateral strength training to accelerate return to readiness following ACL reconstruction (uSTARR)
Role: Co-I (PI: Joshua C. Carr, Co-Is: Grant E. Norte, John Fraser)
Amount requested: \$2,553,860
- 2022 National Multiple Sclerosis Society
Project Title: The utility of low load blood flow restricted resistance exercise to restore, reverse, and recover muscle and neuromuscular function among individuals living with relapsing remitting Multiple Sclerosis
Role: Co-I (PI: Ethan Hill)
Amount requested: \$571,678
- 2022 Impetus Grants
Project Title: Measures of neuromuscular plasticity as sensitive biomarkers of longitudinal aging
Role: PI
Amount Requested: \$395,892
- 2021 American Heart Association Career Development Award
Project Title: The utility of low-load blood flow restriction among prehypertensive postmenopausal women
Role: Mentor
Co-Investigators: Ethan C. Hill (PI, mentee), Jeffrey R. Stout (mentor), Abbie Smith-Ryan (mentor)
Amount Requested: \$231,000
- 2021 NIH R01
FOA: [PAR-21-039] - Stephen I. Katz Early-Stage Investigator Research Project Grant (R01 Basic Experimental Studies with Humans Required)
Project Title: Sex Differences in Neuromuscular Plasticity during Disuse and Rehabilitation
Role: PI
Co-Investigators: Jeanette Garcia, David Fukuda, Debbie Hahs-Vaughn
Amount Requested: \$3,682,993
Impact Score: 68; Percentile: 56%
- 2021 iWALKFree®, Inc
Project Title: Comparison of the iWALKFree 3.0 versus a traditional crutch and brace immobilization model following 10 days of disuse

Role: PI
Amount Requested: \$251,404

2021 NIH R01 (Musculoskeletal Rehabilitation Sciences Study Section)
FOA: [PA-20-183] - Research Project Grant (Parent R01 Clinical Trial Required)
Application ID: 1 R01 NR019915-01A1
Project Title: Sex differences in lower-extremity physical function and neuroplasticity during limb immobilization and rehabilitation
Role: PI
Co-Investigators: Jeanette Garcia, David Fukuda, Debbie Hahs-Vaughn
Amount Requested: \$3,607,759
Impact Score: 65; Percentile: 54%

2020 Foundation for Physical Medicine and Rehabilitation Encompass Midcareer Investigator Research Grant
Project Title: Spasticity prevention via early intervention whole-body vibration protocols following traumatic brain injury
Role: PI
Co-Investigators: Craig Lichtblau, Brittany Giammalvo, Kylie K. Harmon (student)
Amount Requested: \$20,000

2020 NIH R01 (Musculoskeletal Rehabilitation Sciences Study Section)
FOA: [PA-20-183] - Research Project Grant (Parent R01 Clinical Trial Required)
Application ID: 1 R01 NR019915-01
Project Title: Sex differences in lower-extremity physical function and neuroplasticity during limb immobilization and rehabilitation
Role: PI
Co-Investigators: Jeanette Garcia, Nicole Dawson, David Fukuda, Debbie Hahs-Vaughn
Amount Requested: \$3,575,677
Impact Score: 66; Percentile: 54%

2019 NIA R15 (Study Section ZRG1 MOSS-D [82])
FOA: [PAR19-133] - Academic Research Enhancement Award for Undergraduate-Focused Institutions (R15 - Clinical Trial Required)
Application Number: 1 R15 AG064657-01A1
Project Title: Adaptation via action observation: The mirror neuron system as a candidate for preventing muscle weakness in older adults
Role: PI
Co-Investigators: Nicole T. Dawson, David H. Fukuda, Debbie Hahs-Vaughn
Amount Requested: \$493,900
Score: Not Discussed

2018 NIA R15 (Study Section ZRG1 MOSS-D [82])
FOA: [PAR19-133] - Academic Research Enhancement Award for Undergraduate-Focused Institutions (R15 - Clinical Trial Required)
Application ID: 1 R15 AG064657-01

Project Title: The mirror neuron system as a candidate for preventing muscle weakness in older adults

Role: PI

Co-Investigators: Nicole T. Dawson, David H. Fukuda

Amount Requested: \$443,453.15

Score: Not Discussed

- 2018 American Athletic Conference Academic Consortium Research Grant
Project Title: Racial differences in muscle strength and neuromuscular factors following knee-joint immobilization in athletic, college-aged females
Role: PI
Co-Investigators: Robert MacLennan (Student)
Amount Requested: \$10,000
- 2018 De Luca Foundation Research Grant
Project Title: Mirror neurons in older participants (Project MNOP): Acute effects of action observation on muscle strength/weakness and neurophysiological factors in older adults
Role: PI
Co-Investigator: Kylie Harmon (Student)
Award Requested: \$15,000
- 2018 The Foundation for the Science of the Therapeutic Encounter
Project Title: Efficacy of Open-Label Placebo Treatment and Resistance Training on Recovery of Muscle Strength Following Immobilization in Older Adults: A Pilot Study
Role: PI
Amount Requested: \$29,355
- 2018 NIA Parent R21 (Aging Systems and Geriatrics Study Section)
Application Number: 1 R21 AG060327-01
Project Title: The minimal effective resistance training frequency required to prevent dynapenia in older adults: An exploratory study
Role: PI
Co-Investigators: Jeremy Burt, Ibe Koury, Bret Goodpaster, Ulas Bagci
Amount Requested: \$442,238
Score: Not Discussed
- 2017 DJO Global, Inc. Research Grant
Project Title: The time course of deleterious neuromuscular adaptations associated with disuse of the knee joint
Role: PI
Amount Requested: \$26,648
- 2017 American Federation for Aging Research Junior Faculty Research Grant
Project Title: Enhanced resistance training-induced adaptations associated with anodal transcranial direct current stimulation in older adults
Role: PI
Amount Requested: \$100,000

- 2017 University of Central Florida Office of Research & Commercialization In-House Research Grant
Funding Opportunity
Project Title: The influence of age and rest interval length on neuromuscular fatigue
Role: PI
Amount Requested: \$7,500
- 2016 NSCA Foundation – Young Investigator Grant
Project Title: The minimal effective resistance training dose required to avoid the deleterious effects of sarcopenia and dynapenia in older adults
Role: PI
Co-Investigator: Brennan J. Thompson
Amount Requested: \$23,750
- 2014 Harry W Bass Jr. Foundation
Project Title: Healthcare worker functional performance, health and injury, risk assessment.
Role: Co-Investigator
Investigator: Brennan J. Thompson (PI)
Amount Requested: \$19,076
- 2014 American College of Sports Medicine – Research Endowment Grant
Project Title: Physiological-based determinants of functional outcomes in older adults.
Role: Co-Investigator
Co-Investigator: Brennan J. Thompson (PI)
Amount Requested: \$10,000
- 2014 Dairy Management Inc. – Nutrition Research Grant
Project Title: Synergistic effects of whole versus skim milk intake during strength training on neuromuscular function in dynapenic adults.
Role: Co-PI
Co-PI: Brennan J. Thompson
Amount Requested: \$174,052
- 2014 Massage Therapy Foundation Research Grant
Project Title: Does weekly massage enhance the adaptive response to strength training?
Role: PI
Co-Investigator: Brennan J. Thompson
Amount Requested: \$25,699
- 2014 American College of Sports Medicine – Research Endowment Grant
Project Title: Time course for motor unit coactivation following acute eccentric exercise.
Role: PI
Co-Investigator: Brennan J. Thompson
Amount Requested: \$8,630

- 2014 Commercial proposal submitted to TITIN™
Project Title: The effects of TITIN FORCE™ weighted compression clothing on performance adaptations to six weeks of high-intensity, lower-body exercise.
Role: PI
Co-Investigator: Brennan J. Thompson
Amount Requested: \$97,716
- 2013 National Space Behavior Research Institute
Project Title: Exercise motivation in space: An approach-avoidance framework.
Role: Co-Investigator
Co-Investigators: Marc R. Lochbaum (PI), Dave Richman
Amount Requested: \$875,849
- 2013 NSCA Foundation – International Collaboration Grant
Project Title: Effects of squat depth on muscle cross-sectional area, strength, and power.
Role: PI
Co-Investigator: Jesus Mallen
Amount Requested: \$48,770
- 2010 American College of Sports Medicine Foundation Doctoral Student Research Grant
Project Title: Neural modifications during resistance training overreaching.
Role: Student Investigator
Co-Investigator: Travis W. Beck (PI and faculty advisor)
Amount Requested: \$4,830
- 2010 NSCA Foundation Doctoral Student Grant
Project Title: Neural modifications of motor unit firing rates and recruitment with resistance training overreaching.
Role: Student Investigator
Co-Investigator: Travis W. Beck (PI and faculty advisor)
Amount Requested: \$8,710

Management of Clinical Trials (Clinicaltrials.gov)

- [NCT05072652](#) - Short Term Immobilization of the Lower Limb
- [NCT03946709](#) - Mirror Neurons in Older Participants (MNOP)
- [NCT03889548](#) - Influence of Resistance Training Experience and Mental Imagery on Corticospinal Excitability and Inhibition

STUDENT TEACHING AND MENTORSHIP

Student teaching evaluations are available upon request

Course Development and Instruction

University of Central Florida, Doctor of Physical Therapy Program

- PHT6153 Physiological Assessment in Physical Therapy Practice (doctoral level; 2 credits)
- PHT6156 Applied Human Physiology for Health Science (doctoral level; 3 credits)
- PHT6606 Research Methods in Physical Therapy (doctoral level; 2 credits)
- PHT6618 Research Applications in Physical Therapy (doctoral level; 2 credits)
- PHT7900 Capstone Project in Physical Therapy (doctoral level; 3 credits)
- PHT7919 Doctoral Research (doctoral level; 0 credits)

University of Central Florida Kinesiology Guest Lectures

- PET3005 Introduction to Kinesiology (undergraduate level)
- PET6515 Assessment and Evaluation in Sport and Exercise Science (graduate level)

Texas Tech University, Department of Kinesiology and Sport Management

- KIN3305 Exercise Physiology (undergraduate level; 3 credits)
- KIN3322 Science and Practice of Strength Training (undergraduate level; 3 credits)
- KIN3346 Anatomical Kinesiology (undergraduate level; 3 credits)
- KIN5316 Research Methods II (graduate level; 3 credits)
- KIN5353 Assessment of Muscular Performance (graduate level; 3 credits)
- KIN5357 Applied Anatomy and Neuromuscular Performance (graduate level; 3 credits)
- KIN6000 Independent Study (undergraduate level)
- KIN7000 Thesis (graduate level)

University of Oklahoma, Department of Health and Exercise Science

- HES1221 Individual Fitness (undergraduate level; 1 credit)
- HES4833 Exercise Physiology Laboratory (undergraduate level; 3 credits)
- HES4873 Principles of Strength Training and Conditioning (undergraduate level; 3 credits)
- HES4883 Advanced Strength and Conditioning (undergraduate level; 3 credits)

University of Nevada, Las Vegas, Department of Kinesiology and Nutrition Sciences

- KIN172 Foundations of Kinesiology (undergraduate level; 3 credits)

Student Research Awards

This section displays students that have won awards for presenting or working on research under my mentorship

1. Jonathan Beausejour, Ph.D. in Kinesiology student at the University of Central Florida; Student Scholar Symposium Winner (S.T.E.M. category) during the 2023 Research Week poster presentations.
2. Brisilda Bejte, B.S. in Kinesiology student at the University of Central Florida; Student Scholar Symposium Winner (S.T.E.M. category) during the 2023 Research Week poster presentations.
3. Bethany Bradshaw, B.S. in Kinesiology student at the University of Central Florida; Student Scholar Symposium Winner (S.T.E.M. category) during the 2023 Research Week poster presentations.

4. Hunter Miller, Nick Coletti, Zofia Haack, DPT students at the University of Central Florida; Student Scholar Symposium Winner (S.T.E.M. category) during the 2023 Research Week poster presentations.
5. Jeremy Wydra, Jacob Gilbert, and Allie Mann, DPT students at the University of Central Florida; Student Scholar Symposium Winner (S.T.E.M. category) during the 2022 Research Week poster presentations.
6. Jason Pagan, B.S. student at the University of Central Florida; Spring 2021 Learning Institute for Elders at the University of Central Florida (LIFE at UCF) Disability, Aging & Technology Undergraduate Scholarship.
7. Gabriela Rodriguez, B.S. student at the University of Central Florida; Spring 2021 Honors Undergraduate Thesis Scholarship Award.
8. Gabriela Rodriguez, B.S. student at the University of Central Florida; Fall 2020 Undergraduate Kinesiology Student Award.
9. Joshua C. Carr, Ph.D. student at the University of Oklahoma; 2019 American Kinesiology Association Graduate Student Writing Award Recipient.
10. Alina P. Swafford, M.S. student at the University of Central Florida; Student Podium Presentation Award at the 2018 NSCA National Conference.
11. Jacob A. Mota, M.S. student at Texas Tech University; 3rd place in Multidisciplinary category at 2015 Graduate Student Research Poster Competition at Texas Tech University.
12. Jacob A. Mota, B.S. student at Texas Tech University; Undergraduate Research Presentation Award at the 2014 NSCA National Conference.
13. Jacob A. Mota, B.S. student at Texas Tech University; Top Poster Presenter in Biological and Chemical Sciences at the 2014 Texas Tech University Undergraduate Research Conference.
14. Kendra D. Olinghouse, M.S. student at Texas Tech University; 2nd place in Multidisciplinary category at 2014 Graduate Student Research Poster Competition at Texas Tech University.

External Evaluation of International Student Research

1. External examination of Razie Joghatin Alibazi's Ph.D. thesis at Monash University (Australia) titled "Physiological studies investigating the acute effects of strength training, priming TDCS and aerobic exercise on corticospinal plasticity" (July 2022)
2. External examination of Lucas Bet Da Rosa Orsatto's Ph.D. thesis at Queensland University of Technology (Australia) titled "Effects of ageing and resistance training on intrinsic motor neurone excitability" (June 2022)

3. External examination of Joel Mason's Ph.D. thesis at Monash University (Australia) titled "Tracking the corticospinal responses to strength training" (September 2019)

External Dissertation Committee Membership

1. University of Toledo Ph.D. student: David A. Sherman (Graduated Spring 2022, External Committee Member). Project Title: Sensorimotor neuroplasticity after ACL reconstruction: Insights into neuromodulation in orthopedic clinical rehabilitation.

University of Central Florida M.S. Theses and Doctoral Dissertations (2016–present)

1. M.S. in Kinesiology: David Gonzalez Rojas (Graduated Spring 2023, Committee Member). Project Title: Acute effects of sprint interval training and blood flow restriction on neuromuscular and muscle function.
2. Ph.D. in Education – Exercise Physiology track: Ryan Girts (Graduated Summer 2022, Committee Chair). Project Title: Sex differences in muscle quality recovery following one week of lower limb immobilization and subsequent retraining.
3. Ph.D. in Education – Exercise Physiology track: Kylie Harmon (Graduated Summer 2022, Committee Chair). Project Title: The effects of neural and mechanical interventions on muscle size and function during short term immobilization of the lower limb.
4. Ph.D. in Modeling & Simulation: Ravikiran Kattoju (Graduated Spring 2022, Committee Member). Project Title: Automatic posture correction utilizing electrical muscle stimulation.
5. Ph.D. in Public Affairs: Michael Carroll (Graduated Fall 2020, Committee Member). Project Title: Increasing transtibial amputee community involvement through the use of a Smart Adaptive Socket System: A mixed methods research study.
6. Ph.D. in Education – Exercise Physiology track: Nicholas Coker (Graduated Summer 2020, Committee Member). Project Title: Effect of unaccustomed eccentric exercise on motor unit firing characteristics and the repeated bout effect.
7. M.S. in Kinesiology: Michael Marsala (Graduated Summer 2019, Committee Member). Project Title: Ultrasound measured forearm muscle thickness in the forearms of rock climbers.
8. Ph.D. in Education – Exercise Physiology track: Carleigh Boone (Graduated Spring 2019, Committee Member). Project Title: Noninvasive myographical assessments following unaccustomed resistance exercise.
9. M.S. in Kinesiology: Alina Swafford (Graduated Summer 2018, Committee Member). Project Title: The effects of acute open-label placebo treatment on neuromuscular function following fatigue: A pilot study.

10. Ph.D. in Education – Exercise Physiology track: Michael Redd (Graduated Summer 2018, Committee Member). Project Title: Mechanical and physical characteristics of knee flexors and extensors following different warm-up protocols in collegiate male soccer athletes.
11. Ph.D. in Education – Exercise Physiology track: David Church (Graduated Spring 2018, Committee Member). Project Title: Role of brain derived neurotrophic factor (BDNF) in stimulating both strength and cognitive improvements induced by short term resistance training.

Texas Tech University M.S. Theses and Doctoral Dissertations (2012–2016)

1. Ph.D. in Environmental Design: Shabboo Valipoor (Graduated Summer 2016, Committee Member). Project Title: An objective evaluation of patient seating solutions to reduce falls in the elderly population.
2. M.S. in Kinesiology: Jacob A. Mota (Graduated Spring 2016, Committee Chair). Project Title: Motor unit interpulse interval distribution and variability during fatigue in younger versus older adults.
3. M.S. in Kinesiology: Morgan Whitson (Graduated Spring 2016, Committee Member). Project Title: Effects of age and muscle length parameters on single- versus multiple-joint lower-body strength expression: Implications for functional performance outcomes.
4. M.S. in Kinesiology: Robin Sunny (Graduated Fall 2015, Committee Member). Project Title: The effect of heel height on the kinematics of a deadlift.
5. M.S. in Kinesiology: Alexander S. Drusch (Graduated Summer 2015, Committee Chair). Project Title: The effects of an after-school strength and conditioning program on the rate of torque development.
6. M.S. in Kinesiology: Kendra D. Olinghouse (Graduated Spring 2015, Committee Chair). Project Title: Neuromuscular and morphological adaptations to short-term squat and deadlift training in women.
7. M.S. in Kinesiology: Javan Jean-Noel (Graduated Fall 2014, Committee Member). Project Title: A correlational meta-analysis of the interaction between achievement goals and self-determination theory in sport, exercise, and physical education.

University of Central Florida Undergraduate Honors in the Major Theses (2016–present)

1. Daniel George, B.S. in Biomedical Sciences (Expected graduation: Spring 2023, Committee Chair). Project Title: Motor unit firing rates for the biceps brachii during 1 repetition maximum curls.
2. Kevan Knowles, B.S. in Kinesiology (Graduated Fall 2022, Committee Chair). Project Title: The Influence of TMS interpulse interval duration on lower limb corticospinal excitability.
3. Gabriela Rodriguez, B.S. in Kinesiology (Graduated Spring 2021, Committee Chair). Project Title: Rapid grip strength and muscle activity as predictors of reaction time.

4. Lara Suarez, B.S. in Psychology (Graduated Fall 2019, Committee Co-Chair). Project Title: Relationship between executive function and postural control.

Undergraduate Mentee Presentations at the Florida Undergraduate Research Conference

1. Pagan, JI, Harmon, KK, Girts, RM, Rodriguez, G, Stock, MS. Minimizing interpulse variability in corticospinal excitability: How many TMS pulses are optimal? Virtual poster presentation at the 2021 Florida Undergraduate Research Conference (Feb 26, 2021 – Feb 27, 2021).
2. Alberto, A, Coker, NA, Renziehausen, JM, Stock, MS, Fukuda, DH, Wells, AJ. Contralateral repeated bout effect of the elbow flexors in untrained males. Virtual poster presentation at the 2021 Florida Undergraduate Research Conference (Feb 26, 2021 – Feb 27, 2021).
3. Burton, AM, Stock, MS, Mota, JA. Rectus femoris echo intensity correlates with muscle strength, but not endurance, in younger and older men. Poster presentation at the 2017 Florida Undergraduate Research Conference (Feb 24, 2017 – Feb 25, 2017).

Student Research Mentorship through 0-credit Independent Study Hours

University of Central Florida (2016–present)

- Jay Rusch, undergraduate Health Sciences student (2023)
- Daniel George, undergraduate Health Sciences student (2022-2023)
- Jordan Hart, undergraduate Kinesiology student (2022-2023; Summer Undergraduate Research Fellowship recipient)
- Brisilda Bejte, undergraduate Kinesiology student (2022-2023)
- Bethany Bradshaw, undergraduate Kinesiology student (2022-2023)
- Vanjeliz Perez, undergraduate Health Sciences student (2022)
- Manny Hernandez, undergraduate Kinesiology student (2021)
- Ariel Alberto, undergraduate Kinesiology student (2021)
- Jason Pagan, undergraduate Kinesiology student (2019–2021)
- Gabriella Rodriguez, undergraduate Kinesiology student (2019–2021)
- Arielle Grusky, undergraduate Health Sciences student (2019–2020)
- Rob MacLennan, M.S. Kinesiology student (2017–2019)
- Alina Swafford, thesis student in Kinesiology (2017–2018 [supervision of data collection and analysis])
- Dennis Kwon, undergraduate Kinesiology student (2018)
- David Phan, undergraduate Health Sciences student funded via Learning Institute for Elders at UCF (2016–2018)
- Adam Burton, B.S. in Mechanical Engineering working on research prior to Medical School (2016–2018)
- Ryan Delk, undergraduate Health Sciences student (2017)

Texas Tech University (2012–2016)

- Shabboo Valipoor (2015–2016 [supervision of doctoral dissertation data collection])

- Jacob Mota, CALUE funded undergraduate researcher and M.S. thesis student (2013–2016)
 - Jennah Hernandez, Honors College funded undergraduate researcher (2014–2016)
 - Alex Drusch, M.S. thesis student (2014–2015)
 - Kendra Olinghouse, M.S. thesis student (2013–2015)
 - Elias Carrillo, Howard Hughes Medical Center Undergraduate Fellow (2013–2014)
 - Alex Johnson, CALUE funded undergraduate researcher (2014)
 - Abe Munayer, M.S. student (2012–2013)
 - Micheal Luera, M.S. student (2012–2013)
 - JoCarol Shields, M.S. student (2012–2013)
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PROFESSIONAL AND UNIVERSITY SERVICE

Federal Grant Reviews

- CDC/NIOSH funded NY/NJ Education and Research Center (NIOSH-Region II ERC; #T42OH008422) Pilot Projects Research Training (PPRT) Program (Spring 2023)
- Musculoskeletal Rehabilitation Sciences Study Section – NIH MRS (February 18-19, 2021)

Editor of Special Issues

- In collaboration with Michael Deschenes, Ph.D., served as Co-Editor of *Cells' Special Issue on Cellular Plasticity of the Neuromuscular System* (Publication Date: Spring 2023)
- In collaboration with Michael Deschenes, Ph.D., served as Co-Editor of *Experimental Gerontology's Special Issue on Neuromuscular Adaptations to Aging and Exercise* (Publication Date: Spring 2022)

Editorial Board

1. Associate Editor, *Frontiers in Physiology* (2021–present)
2. Editor, *Experimental Gerontology* (2020–present)
3. Senior Editor, *Journal of Strength and Conditioning Research* (2016–present)
4. Associate Editor, *Journal of Strength and Conditioning Research* (2012–2016)

Manuscript Reviewer

5. *Acta Physiologica*
6. *Sports Health*
7. *Clinical Interventions in Aging*
8. *Neuroscience and Biobehavioral Reviews*
9. *Journal of Biomechanics*
10. *Experimental Physiology*
11. *Journal of Applied Physiology*
12. *Frontiers in Neurology*
13. *Ultrasound in Medicine and Biology*
14. *Journal of Neuroscience Methods*
15. *BMC Sports Science, Medicine, and Rehabilitation*

16. *American Journal of Physiology-Regulatory, Integrative and Comparative Physiology*
17. *Gerontology*
18. *Archives of Gerontology and Geriatrics*
19. *Journal of Aging and Physical Activity*
20. *Medicine & Science in Sports & Exercise*
21. *Scientific Reports*
22. *Frontiers in Physiology*
23. *Peer J*
24. *PloS One*
25. *Experimental Brain Research*
26. *Applied Physiology, Nutrition, and Metabolism*
27. *Somatosensory & Motor Research*
28. *Journal of Science in Sport and Exercise*
29. *European Journal of Applied Physiology*
30. *Journal of Electromyography and Kinesiology*
31. *Sports Medicine*
32. *Biomechanics and Modeling in Mechanobiology*
33. *Physical Therapy in Sport*
34. *European Review of Aging and Physical Activity*
35. *Journal of Science and Medicine in Sport*
36. *Strength and Conditioning Journal*
37. *European Journal of Sport Science*
38. *Journal of Neurophysiology*
39. *Scandinavian Journal of Medicine & Science in Sports*
40. *Journal of Sports Science & Medicine*
41. *Kinesiology: International Journal of Fundamental and Applied Kinesiology*
42. *Journal of Applied Biomechanics*
43. *Journal of Athletic Enhancement*
44. *The Open Sports Sciences Journal*
45. *Journal of Sports Sciences*
46. *Perceptual and Motor Skills*
47. *International Journal of Exercise Science*
48. *Muscle and Nerve*
49. *Research Quarterly for Exercise and Sport*
50. *Patient Related Outcome Measures*
51. *Journal of Advanced Research*
52. *Indian Journal of Social and Natural Sciences*
53. *Amino Acids*

Textbook Reviewer

1. Reviewer – *Foundations of Clinical Research: Applications to Practice*, 4th edition, on behalf of F.A. Davis Company (2017).

Service for Professional Organizations (Excluding Major Leadership Activities Denoted Above)

NSCA and NSCA Foundation

- Grant reviewer - NSCA Foundation (2015–2017, 2023)
- Abstract reviewer - NSCA National Conference (2012–present)
- Poster/podium judge - NSCA National Conference Student Presentations (2012–2016, 2019, 2021)
- Chair - NSCA Foundation Scholarship Committee (2013–2017)
- Contributor - NSCA Foundation Strategic Planning (Colorado Springs, CO; October 28, 2016–October 30, 2016)

American College of Sports Medicine

- Abstract reviewer - Southeast American College of Sports Medicine Annual Conference (2017, 2019, 2020, 2021)
- Grant reviewer - Texas American College of Sports Medicine Annual Conference (2013–2016)
- Poster judge - Texas American College of Sports Medicine Annual Conference (2013–2016)

Misc.

- Poster judge - UAB Aging Symposium in Birmingham, AL (2019)

University of Central Florida Service (2016–present)

Department/School

- Committee member - Division of Physical Therapy Retention and Advancement Committee (2019–present)
- Committee member - Division of Physical Therapy Curriculum Committee (2019–present)
- Search committee member – Department of Health Sciences Assistant Professor search (2021)
- Search committee member - Division of Physical Therapy Assistant/Associate Professor faculty search (2020)
- Search committee member - Division of Physical Therapy Assistant/Associate Professor faculty search (2019)
- Search committee member - Division of Kinesiology senior faculty search (2019)
- Search committee member - Division of Kinesiology open-rank faculty search ×2 (2019)
- Search committee member - Athletic Training Assistant Professor faculty search (2018)

College

- Committee member - College of Health Professions and Sciences Sabbatical committee (2019–present)
- Poster Judge – Department of Health Sciences Annual Undergraduate Research Symposium (2017–present)
- Committee member - College of Health Professions and Sciences Research Council (2018–2021)
- Planning committee - College of Health Professions and Sciences Rehabilitation Sciences Ph.D. program development (2019–2020)

- Presenter - College of Health and Public Affairs CORE Lunch and Learn – “Strength training myths and tips” (April 5, 2017)
- Committee member - College of Health and Public Affairs Research Council (2016–2017)

University

- Committee member – University Research Committee (2020–present)
- Board member – University Institutional Review Board (2018–present)
- Committee member – Faculty Excellence Advisory Committee (2020–2021)
- Committee member – Graduate Program Review and Awards Committee (2019–2020)
- Committee member – Office of Research Seed Funding Program (2019)
- Committee member – University Honors Committee (2017–2019)
- Poster judge – 14th Annual Graduate Research Forum Judge (2017)
- Poster judge- Showcase of Undergraduate Research Excellence (2017)
- Grant reviewer – Mayo-UCF Convergence Pilot Seed Funding Program (2017)
- Committee member – Undergraduate Common Program Oversight Committee (2017)

Texas Tech University Service (2012–2016)

Department

- Search committee member - Motor Learning faculty search (2015)
- Search committee member - Exercise Physiology/Nutrition faculty search ×2 (2014)
- Search committee member - Biomechanics/Motor Learning/Strength and Conditioning faculty search (2013)
- Search committee chair - Exercise Physiology faculty search (2013)
- Search committee chair - Strength and Conditioning faculty search (2012)

University

- Faculty advisor - Texas Tech University TEACH program (Doctoral student: LaToya Johnson, now faculty member at South Carolina State University; 2015)
- Invited speaker - Texas Tech University Tenure Academy concerning the third-year review process (2015)
- Final project reviewer - Texas Tech University Teaching, Learning, and Professional Development Center doctoral student program (2014–2015)
- Poster judge - 13th Annual Graduate Student Research Poster Competition (2014)

External Evaluation of Faculty

1. External reviewer for promotion and tenure of a faculty member at the University of South Florida (August 2023)
2. External reviewer for promotion and tenure of a faculty member at Oklahoma State University (December 2022)

3. External reviewer for promotion and tenure of a faculty member at Tel Aviv University (November 2022)
4. External reviewer for promotion of a faculty member at Monash University (April 2022)
5. External reviewer for promotion and tenure of a faculty member at the University of Kentucky (August 2021)
6. External reviewer for promotion and tenure of a faculty member at Kennesaw State University (June 2020)
7. External reviewer for promotion and tenure of a faculty member at the University of Nevada, Las Vegas (August 2019)

Miscellaneous

- External reviewer for Ph.D. students electing for the Grant Option of Comprehensive Assessment at the University of South Carolina (Department of Physical Education; Program Coordinator: David Stodden, Ph.D.)
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ADDITIONAL INFORMATION

Current Memberships in Professional Organizations

- Professional Member – American College of Sports Medicine
- Professional Member – Southeast Chapter of the American College of Sports Medicine
- Professional Member – Society for Transparency, Openness, and Replication in Kinesiology
- Professional Member – Public Responsibility in Medicine and Research
- Professional Member – National Strength and Conditioning Association
- Professional Member – International Society of Electrophysiology and Kinesiology
- Professional Member – American Council of Academic Physical Therapy

Certification

- Certified Strength and Conditioning Specialist, Recertified with Distinction (CSCS,*D), NSCA Certification Commission. Certification Date: 6/13/2006
- American Heart Association Basic Life Support (CPR and AED) Certified. Certification Date: 6/11/2019
- DXA (GE enCORE™) Operator trained
- Registered BOD POD User Certification (University of Nevada, Las Vegas, 2006)

Mainstream Media Stories and Contributions

- Quoted in a UCF PEGASUS magazine story
<https://www.ucf.edu/pegasus/how-to-ace-the-test-of-time/>
- Research featured in a UCF Today story
<https://www.ucf.edu/news/think-big-muscles-are-the-key-to-better-movement-in-older-adults-not-so-fast/>

- Quoted in an article concerning short-term muscular adaptations to resistance training
<https://www.theglobeandmail.com/life/health-and-fitness/fitness/muscle-gains-can-be-seen-after-a-few-weeks-of-hard-workouts-study/article34894516/>
- Featured as part of a Texas Tech University Research Reflection Video
<https://www.facebook.com/TtuCalue/videos/674801189288452/?l=3177028945048478749>
- Quoted in the June, 2015 edition of SHAPE magazine on resistance training prescription for women
- Featured in a Texas Tech University College of Arts and Sciences KTXT radio ad concerning the benefits of strength training in women, Spring 2015. <http://today.ttu.edu/posts/2015/04/college-of-arts-and-sciences-promotes-innovation-through-research>
- Quoted in Health magazine and ABCnews.com; “The Best Workout Move You’re Not Doing.” January 13, 2015, <http://abcnews.go.com/Health/best-workout-move-youre/story?id=28281275>
- Quoted in SHAPE magazine; “The Strength Exercise That Makes You More Powerful.” January 7, 2015, <http://www.shape.com/fitness/workouts/strength-exercise-makes-you-more-powerful>

Non-Academic Employment Prior to Doctoral Studies

Miami Research Associates, Miami, FL; May, 2008–August, 2008 and May, 2006–August, 2006
Research Coordinator

- Human subjects recruitment
- Data collection
- Statistical analyses

Valley Hospital Medical Center, Las Vegas, NV; December, 2007–March, 2008
Phlebotomist

- Blood sampling and processing
- Updated patient records

Matria Healthcare, Las Vegas, NV; August, 2006–May, 2008
Health Coach

- Interpreted cardiovascular and blood lipid test results
- Met with Las Vegas casino employees on a one-on-one basis to discuss their health status

StrengthPro Inc., Las Vegas, NV; May, 2006–May, 2008
Strength and Conditioning Coach

- Developed and implemented strength and conditioning programs
- Basic facility management (i.e., scheduling, cleaning, etc.)
- Assisted with educational materials and management of the Arnold Classic Strength Training Summit in Columbus, OH

Perfect Competition Athletic Development, Davie, FL; December, 2005–May, 2006
Strength and Conditioning Coach (Undergraduate Volunteer/Internship)

- Trained MLB, NFL and NCAA athletes
- Nutrition education for NFL combine athletes
- Weight-room maintenance

**Florida Atlantic University Athletics Department, Boca Raton, FL; Fall 2005
Strength and Conditioning (Undergraduate Volunteer/Internship)**

- Observed the training of NCAA athletes
- Assisted athletes with warm-up and cool-down
- Cleaning and organization

**Florida Atlantic University Wellness Center, Davie, FL; February, 2005–December, 2005
Personal Trainer**

- Designed individual exercise training routines for our members
- Performed American College of Sports Medicine exercise testing
- Managed membership information

References

Jeffrey R. Stout, Ph.D.
Founding School Director & Pegasus Professor
University of Central Florida
Phone: (407)823-0211
Email: jeffreystout@ucf.edu

David H. Fukuda, Ph.D.
Division Chair & Professor
University of Central Florida
Phone: (407)823-0442
Email: david.fukuda@ucf.edu

Jason M. DeFreitas, Ph.D.
Program Director & Associate Professor
Oklahoma State University
Phone: (405) 744-9935
Email: jason.defreitas@okstate.edu

Michael D. Roberts, Ph.D.
Professor
Auburn University
Phone: (334) 844-1925
Email: mdr0024@auburn.edu

Brian K. Schilling, Ph.D.
Professor
University of Nevada, Las Vegas
Phone: (702) 895-1130
Email: brian.schilling@unlv.edu

