

Matt S. Stock, Ph.D.

Curriculum Vitae

Associate Professor (with tenure)
Director, Neuromuscular Plasticity Laboratory
Director, Institute of Exercise Physiology & Rehabilitation Science
School of Kinesiology and Physical Therapy
University of Central Florida
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Web Links

[Neuromuscular Plasticity Laboratory](#)
[PubMed Bibliography](#)
[ResearchGate Page](#)
[Google Scholar Page](#)
[Publons](#)
[ResearcherID: G-8308-2018](#)

EDUCATION AND ACADEMIC APPOINTMENTS

University Education

- | | |
|------|--|
| 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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|------|--|
| 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 Physical Therapy 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>Director, Neuromuscular Plasticity Laboratory</i> <i>Director, Doctor of Physical Therapy 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

2020	UCF College of Health Professions and Sciences Grant Writing Mentorship Award
2019	UCF College of Health Professions and Sciences Grant Writing Mentorship Award
2018	Fellow of the National Strength and Conditioning Association (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

RESEARCH: PUBLICATIONS, PRESENTATIONS, AND FUNDING

Publications in Peer-Reviewed Journals

• Total number of publications in-press or published:	87
• Total number of publications as 1 st or corresponding author:	45
• Number of different journals published in:	35
• Total times cited according to Google Scholar:	1,319
• Google Scholar h-index:	21
• Google Scholar i10-index:	39
• Number of times cited according to Web of Science:	697
• Web of Science h-index:	15
• ResearchGate RG score:	36.56
• Number of different published student authors:	50

Bold font = Corresponding author

Underlined font = Student working under my mentorship

Manuscripts Currently in Review

1. Girts, RM, MacLennan, RJ, Harmon, KK, **Stock, MS**. The association between skeletal muscle echo intensity and involuntary strength in young women. Resubmitted to *Translational Sports Medicine* following major revisions on December 3, 2020.
2. Peller, A, Garib, R, Garbe, E, Komforti, D, Magras, A, Joffe, C, Trapuzzano, A, Stock, MS, Dawson, N. Validity and reliability of the NIH Toolbox® Standing Balance Test as compared to the Biodex Balance System SD. Submitted to *Physiotherapy Theory and Practice* on June 26, 2020.

Manuscripts Accepted and In-Press

1. Harmon, KK, Hamilton, AS, Johnson, BD, Bartek, FJ, Girts, RM, MacLennan, RJ, Hahs-Vaughn, DL, **Stock, MS**. Motor unit action potential amplitude during low-torque fatiguing contractions versus high-torque non-fatiguing contractions: A multilevel analysis. Accepted by the *European Journal of Applied Physiology* on January 9, 2021.
2. **Stock, MS**, Thompson, BJ. Echo intensity as an indicator of skeletal muscle quality: applications, methodology, and future directions. Accepted by the *European Journal of Applied Physiology* on November 7, 2020. doi: 10.1007/s00421-020-04556-6 **Invited Review**

3. Komforti, D, Magras, A, Joffe, C, Peller, A, Garib, R, Garbe, E, Trapuzzano, A, Dawson, N, **Stock, MS**. Does skeletal muscle morphology or functional performance better explain variance in fast gait speed in older adults? Accepted by *Aging Clinical and Experimental Research* on May 10, 2020. doi: [10.1007/s40520-020-01596-y](https://doi.org/10.1007/s40520-020-01596-y)
4. MacLennan, RJ, Mota, JA, Thompson, BJ, **Stock, MS**. Effects of strength and conditioning on maximal isometric strength, motor unit behavior, and concentric isokinetic peak torque in middle-school boys. Accepted by the *Journal of Strength and Conditioning Research* on March 29, 2020.

Published Manuscripts

2021

5. 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

6. **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)
7. 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)
8. 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)
9. 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)
10. 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)
11. 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

12. **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 **Invited submission as part of a Special Issue on Strength and Conditioning**
13. **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
14. **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
15. **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

2018

16. **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
17. **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
18. **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
19. 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
20. **Valipour, 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
21. 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

2017

22. **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)
23. **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)
24. **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)
25. 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)
26. **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)
27. **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)
28. 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

29. **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)
30. **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)
31. **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)
32. **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)

33. 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
34. 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
35. 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

36. [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
37. 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
38. 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

2014

39. [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
40. [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
41. [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](#)
42. [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
43. [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

44. 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)
45. 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)
46. 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)
47. Ye, X, Beck, TW, Stock, MS, Fahs, CA, Kim, D, Loenneke, JP, Thiebaud, RS, DeFreitas, JM, Rossow, LM, Bembien, DA, Bembien, 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](#)
48. 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

49. **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)
50. **Stock, MS**, Beck, TW, DeFreitas, JM. (2013). Effects of diverting activities on electromyographic amplitude and mean frequency. *Kinesiology (Croatia)*, 45(2):130–8. [Link](#)
51. **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)
52. **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)
53. 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

54. **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)

55. 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)
56. 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)
57. 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.
58. 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)
59. 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)
60. 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)
61. 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)
62. 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)
63. 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)
64. Beck, TW, Stock, MS, DeFreitas, JM. (2012). Classification of electromyographic intensity patterns after diverting activities. *Clinical Kinesiology*, 66(2):29-38.

2011

65. **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)
66. **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)

67. 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)
68. 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)
69. 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.
70. 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.
71. 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.
72. 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.
73. 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

74. **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)
75. **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)
76. **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)
77. **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](#)

78. **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)
79. **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)
80. **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)
81. 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)
82. 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)
83. 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
84. 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)
85. 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](https://doi.org/10.1017/S0007114510002254)
86. 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](https://doi.org/10.1016/j.bspc.2010.07.002)

2009

87. 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](https://doi.org/10.1088/0967-3334/30/12/012)

88. 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. To be 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, 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.
2. 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.
3. 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.
4. 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 ACSM 2017 “Motor Learning, Coordination and Adaptation in Exercise,” 2017, Denver, CO.
5. 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.**

6. Ramezani, S, Dranetz, JM, Stock, MS, Choi, H. Electromyographic evaluation of individual muscle contributions predicted in two musculoskeletal models. Abstract submitted for virtual presentation at the Gait and Clinical Movement Analysis Society 2021 Annual Conference.

7. Carroll M, Hou S, Highsmith MJ, Stock MS, Choi H. Predicting Device Tolerance Using the Technology Acceptance Model: A Theoretical Introduction. Abstract accepted for a poster presentation session at AAOP (American Academy of Orthotists and Prosthetists), National Meeting, New Orleans, LA, May 2021.
8. Carroll M, Harold N, Highsmith MJ, Ulric A, Latlief G, Courtade A, Conroy B, Phillips S, Hou S, Stock MS, Choi H, Boone D. Perceptions and Use of the Transtibial Smart Adaptive Socket. Abstract accepted for a poster presentation session at AAOP (American Academy of Orthotists and Prosthetists), National Meeting, New Orleans, LA, May 2021.
9. Carroll M, Harold N, Highsmith MJ, Ulric A, Latlief G, Courtade A, Conroy B, Phillips S, Hou S, Stock MS, Choi H, Boone D. Perceptions and Use of the Transtibial Smart Adaptive Socket. Monthly Education Call. U.S. Department of Veterans Affairs Monthly Education Meeting, Washington, D.C. October 2020.
10. 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.
11. 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.
12. 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.
13. 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.
14. 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.
15. 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.
16. 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.

17. 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? Abstract submitted for poster presentation to the 1st Annual Society for Neurosports Conference, 2019, Deerfield Beach, FL.
18. 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. Abstract submitted for poster presentation to the 1st Annual Society for Neurosports Conference, 2019, Deerfield Beach, FL.
19. 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.
20. 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.
21. 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.
22. 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.
23. 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.
24. 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.
25. 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.
26. 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.

27. 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.
28. 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.
29. 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.
30. 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.
31. Sluis, KV, Kornman, AF, Groen, WG, Stock, MS, Stuiver, 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. Abstract submitted as part of the Sixth World Congress of the International Federation of Head and Neck Oncologic Societies, 2018, Buenos Aires, Argentina.
32. 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.
33. 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.
34. 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.
35. 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
36. 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.

37. 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.
38. 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.
39. 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.
40. 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.
41. 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.
42. 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.
43. 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.
44. 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.
45. 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.
46. 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.
47. 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.

48. 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.
49. 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.
50. 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.
51. 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****
52. 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.
53. 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.
54. 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.
55. 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.
56. 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.
57. 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.
58. 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.
59. Ye, X, Beck, TW, Fahs, CA, Kim, D, Loenneke, JP, Thiebaud, RS, Rossow, LM, Kim, E, Stock, MS, Bemben, DA, Bemben, 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.

60. 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.
61. 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.
62. 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.
63. 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.
64. 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.
65. 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.
66. 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. Harmon KK, Girts RM, MacLennan RJ, Stock MS. Changes in recruitment thresholds as a compensatory strategy during neuromuscular fatigue. Abstract submitted for review to the 2020 Southeast American College of Sports Medicine Meeting, Jacksonville, FL.
2. Girts RM, MacLennan RJ, Harmon KK, Stock MS. Skeletal muscle echo intensity: Indicative of voluntary or involuntary strength? Abstract submitted for review to the 2020 Southeast American College of Sports Medicine Meeting, Jacksonville, FL.

3. MacLennan, RJ, Swafford, AP, Kwon, DP, DeFreitas, JM, Stock, MS. Do decreases in voluntary activation account for fatigability differently in males and females? Poster presented at the 2019 Central States American College of Sports Medicine Meeting, Broken Arrow, OK.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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
9. 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.
10. 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.
11. 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.
12. 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.
13. 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.

14. 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.
15. 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.
16. 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.
17. 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.

Funded External Research Grants

- 2017 De Luca Foundation Research Grant
Project Title: The time course of motor unit adaptations associated with disuse
Role: PI
Co-Investigators: Rob J. MacLennan (Student)
Award Amount: \$15,000.00
- 2015 – 2016 NSCA Foundation – Graduate Student Research Grant
Project Title: Effects of age and muscle length parameters on single- versus multiple-joint lower-body strength expression: Implications for functional performance outcomes
Role: Co-Investigator
Co-Investigators: Morgan Whitson (Student), Brennan J. Thompson (PI), Eric J. Sobolewski
Award Amount: \$5,403.00
- 2014 – 2016 NSCA Foundation – Young Investigator Grant
Project Title: Adaptations to an after-school high-intensity conditioning program in youth
Role: PI
Co-Investigator: Brennan J. Thompson
Award Amount: \$19,991.00
- 2014 – 2015 National Institute of Occupational Safety and Health (NIOSH) – Pilot Project Research Training Program grant (Sponsored through the University of Texas Public School of Health)

Project Title: The effects of work schedule characteristics on fatigue and performance capacities in female healthcare workers: Injury risk profiling assessment

Role: Co-Investigator

Co-Investigator: Brennan J. Thompson (PI)

Award Amount: \$10,000.00

2014 – 2015 NSCA Foundation – Graduate Student Research Grant
Project Title: Muscle architectural changes during short-term squat and deadlift training
Role: PI
Co-Investigators: Kendra D. Olinghouse (Student), Brennan J. Thompson
Award Amount: \$6,580.00

Funded Internal Research Grants

2019 University of Central Florida LIFE grant
Project Title: Project MNOP (Mirror Neurons in Older Participants): Acute effects of action observation on muscle strength/weakness and neurophysiological factors in older adults
Role: PI
Co-Investigators: Kylie K. Harmon (Student)
Amount Requested: \$9,120.00
Amount Funded: \$5,040.00

2018 University of Central Florida LIFE grant
Project Title: Investigating the Unique Predictors of Comfortable and Fast Gait Speed in Community Dwelling Older Adults
Role: Co-Investigator
Co-Investigators: Nicole Dawson (PI), Ashleigh Trapuzzano (Student)
Award Amount: \$7,300.00

2018 University of Central Florida Office of Research & Commercialization In-House Research Grant Funding Opportunity
Project Title: The time course of neuromuscular adaptations to knee joint immobilization
Role: PI
Award Amount: \$7,426.00

Funded University Research Support

1. University of Central Florida College of Health and Public Affairs Sponsored Research Incentive (\$2,500.00; Spring 2017).
2. Learning Institute for Elders (LIFE) at the University of Central Florida Funding for David Phan's undergraduate student project (\$500.00; Spring 2017).

3. Financial support (\$500.00) through University of Central Florida Office of Undergraduate Research for research support, Student: David Phan (Spring 2017).
4. Financial support (\$720.00) 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 (\$1,000.00) 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 \$6,000.00, 2017.
2. DJO Global Deluxe Universal Knee Immobilizers. Retail value of \$50.00, 2015.
3. VibraTrim VT400 Vibration Platform device. Retail value of \$1,999.00, 2013.
4. Tendo Weightlifting Analyzer and a single station interface with computer software. Retail value of \$2,348.00, 2013.
5. Surge 360 Performance Training unit. Retail value of \$1,995.00, 2013.

Unfunded Grant Attempts (External and Internal)

- | | |
|------|---|
| 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: \$20,000.00 |
| 2020 | NIH R01 (Musculoskeletal Rehabilitation Sciences Study Section)
FOA: [PA-20-183] - Research Project Grant (Parent R01 Clinical Trial Required)
Application Number: 791527
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 (\$2,490,785 direct costs)
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: \$493,900.00 (\$299,961.00 direct costs)
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 Number: 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 (\$300,000.00 direct costs)
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: \$10,000.00
- 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: \$15,000.00
- 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: \$29,355.00
- 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: \$442,238.00 (\$275,000.00 direct costs)
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: \$26,648.00
- 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: \$100,000.00
- 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: \$7,500.00
- 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: \$23,750.00
- 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: \$19,076.00
- 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: \$10,000.00
- 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: \$174,052.00

- 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: \$25,699.00
- 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: \$8,630.00
- 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: \$97,716.00
- 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: \$875,849.00
- 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: \$48,770.00
- 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: \$4,830.00
- 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: \$8,710.00

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 Physiologic 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. Gabriela Rodriguez, B.S. student at the University of Central Florida; Fall 2020 Undergraduate Kinesiology Student Award.
2. Joshua C. Carr, Ph.D. student at the University of Oklahoma; 2019 American Kinesiology Association Graduate Student Writing Award Recipient.
3. Alina P. Swafford, M.S. student at the University of Central Florida; Student Podium Presentation Award at the 2018 NSCA National Conference.
4. 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.
5. Jacob A. Mota, B.S. student at Texas Tech University; Undergraduate Research Presentation Award at the 2014 NSCA National Conference.
6. 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.
7. 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

- External examination of Joel Mason's Ph.D. thesis at Monash University (Australia) entitled "Tracking the Corticospinal Responses to Strength Training" (September, 2019)

External Committee Membership

1. University of Toledo Ph.D. student: David A. Sherman (Expected Graduation TBD, External Committee Member). Project Title TBD.

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

2. Ph.D. in Modeling & Simulation: Ravikiran Kattoju (Expected Graduation TBD, Committee Member). Project Title TBD.
3. Ph.D. in Education – Exercise Physiology track: Ryan Girts (Expected Graduation Spring 2022, Committee Member). Project Title: TBD.
4. Ph.D. in Education – Exercise Physiology track: Kylie Harmon (Expected Graduation Spring 2022, Committee Member). Project Title: TBD.

5. Ph.D. in Public Affairs: Michael Carroll (Expected Graduation in 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. 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.
8. M.S. in Kinesiology: Michael Marsala (Graduated Summer 2019, Committee Member). Project Title: Ultrasound measured forearm muscle thickness in the forearms of rock climbers.
9. Ph.D. in Education – Exercise Physiology track: Carleigh Boone (Graduated Spring 2019, Committee Member). Project Title: Noninvasive myographical assessments following unaccustomed resistance exercise.
10. M.S. in Kinesiology: Alina Swafford (Graduated Summer 2018, Outside Committee Member). Project Title: The effects of acute open-label placebo treatment on neuromuscular function following fatigue: A pilot study.
11. Ph.D. in Education – Exercise Physiology track: Michael Redd (Graduated Summer 2018, Outside Committee Member). Project Title: Mechanical and physical characteristics of knee flexors and extensors following different warm-up protocols in collegiate male soccer athletes.
12. Ph.D. in Education – Exercise Physiology track: David Church (Graduated Spring 2018, Outside 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.

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? Abstract accepted for virtual 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. Abstract accepted for virtual 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, 2021 – Feb 25, 2021).

Student Research Mentorship through 0-credit Independent Study Hours

University of Central Florida (2016–present)

- Manny Hernandez, undergraduate Kinesiology student (2021)
- Ariel Alberto, undergraduate Kinesiology student (2021)
- Jason Pagan, undergraduate Kinesiology student (2019–present)
- Gabriella Rodriguez, undergraduate Kinesiology student (2019–present)
- 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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LEADERSHIP POSITIONS AND PROFESSIONAL SERVICE

Federal Grant Review Panels

- Musculoskeletal Rehabilitation Sciences Study Section – NIH MRS (February 18-19, 2021)

Editorial Board

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

Manuscript Reviewer

4. *Medicine & Science in Sports & Exercise*
5. *Scientific Reports*
6. *Frontiers in Physiology*
7. *Peer J*
8. *PloS One*
9. *Experimental Gerontology*
10. *Applied Physiology, Nutrition, and Metabolism*
11. *Somatosensory & Motor Research*
12. *Journal of Science in Sport and Exercise*
13. *European Journal of Applied Physiology*
14. *Journal of Electromyography and Kinesiology*
15. *Sports Medicine*
16. *Biomechanics and Modeling in Mechanobiology*
17. *Physical Therapy in Sport*
18. *European Review of Aging and Physical Activity*
19. *Journal of Science and Medicine in Sport*
20. *Strength and Conditioning Journal*

21. *European Journal of Sport Science*
22. *Journal of Neurophysiology*
23. *Scandinavian Journal of Medicine & Science in Sports*
24. *Journal of Sports Science & Medicine*
25. *Kinesiology: International Journal of Fundamental and Applied Kinesiology*
26. *Journal of Applied Biomechanics*
27. *Journal of Athletic Enhancement*
28. *The Open Sports Sciences Journal*
29. *Journal of Sports Sciences*
30. *Perceptual and Motor Skills*
31. *International Journal of Exercise Science*
32. *Muscle and Nerve*
33. *Research Quarterly for Exercise and Sport*
34. *Patient Related Outcome Measures*
35. *Journal of Advanced Research*
36. *Indian Journal of Social and Natural Sciences*
37. *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

NSCA and NSCA Foundation

- President - NSCA Foundation (2018–2020)
- Abstract reviewer - NSCA National Conference (2012–present)
- Poster/podium judge - NSCA National Conference Student Presentations (2012–2016, 2019)
- Board member - NSCA Foundation Board of Directors (2017)
- Chair - NSCA Foundation Scholarship Committee (2013–2017)
- Contributor - NSCA Foundation Strategic Planning (Colorado Springs, CO; October 28, 2016–October 30, 2016)
- Grant reviewer - NSCA Foundation (2015–2017)
- Host - NSCA CSCS exams at Texas Tech University (2012–2016)

ACSM

- Abstract reviewer - Southeast American College of Sports Medicine Annual Conference (2017, 2019, 2020)
- 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 - 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

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

- Program Director for the NSCA Education Recognition Program (ERP) program (December 15, 2012–December 15, 2015)
- 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

- External reviewer for promotion and tenure of a faculty member at the University of Nevada, Las Vegas (August 2019)
- External reviewer for promotion and tenure of a faculty member at Kennesaw State University (June 2020)

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.)

ADDITIONAL INFORMATION

Current Memberships in Professional Organizations

- Professional Member - Public Responsibility in Medicine and Research
- Professional Member - NSCA
- Professional Member - International Society of Electrophysiology and Kinesiology
- Member - National Alliance for Youth Sports, Inc.

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

- 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 an article in the June, 2015 edition of SHAPE magazine concerning 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

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