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EDUCATION

2006 – PhD in Motor Control. University of Florida
2002 – MS in Motor Control. University of Florida
1998 – BS (1st class) in Psychology. Liverpool John Moores University. England.

ACADEMIC APPOINTMENT

2023 – present Graduate Coordinator, Department of Applied Physiology and Kinesiology. University of Florida
2018 – present Associate Professor, Department of Applied Physiology and Kinesiology. University of Florida
2011 – 2018 Assistant Professor, Department of Applied Physiology and Kinesiology. University of Florida

PROFESSIONAL EXPERIENCE

2009-2011 NIMH - NRSA Postdoctoral Fellow. Functional Brain Imaging. University of Illinois at Chicago.
Mentors: David Vaillancourt, Ph.D., Daniel Corcos, Ph.D.
2008-2009 NIH Postdoctoral Research Fellow. Departments of Psychiatry and Kinesiology. Mentors: Mark Rasenick
Ph.D., David Vaillancourt, Ph.D.
2006-2008 Postdoctoral Research Associate. Motor Behavior Laboratory. University of Florida. Mentor: James H.
Cauraugh, Ph.D.
2005-2007 AHA Predoctoral Fellow. Motor Behavior Laboratory. University of Florida. Mentor: James H.
Cauraugh, Ph.D.
2000-2006 Graduate Research Assistant. University of Florida. Supervisor: Christopher M. Janelle, Ph.D.

RESEARCH INTERESTS

My research focusses on brain structure and brain function in human models of neurodegeneration and other disorders that effect the sensorimotor system. We have ongoing studies using high-density EEG, functional MRI, and diffusion MRI in chronic back pain, shoulder pain, Parkinson's Disease, Alzheimer's disease, Lewy Body Dementia, Autism, and Stroke. This research combines quantitative time series analysis techniques with systems level data collection methods including behavioral measures of force control, sensory stimulation, cognitive function, electromyography, virtual reality, magnetic resonance imaging (MRI), functional MRI (fMRI), diffusion tensor imaging (DTI), and high-density electroencephalography (EEG).

JOURNAL PUBLICATIONS (81)

1. DeSimone J.C., Wang W-W., Loewenstein D.A., Duara R., Smith G.E., McFarland K.N., Armstrong M.J., Weber D.M., Barker W., **Coombes S.A.**, Vaillancourt D.E (in press). Diffusion MRI related to plasma A β 42/40 in PET negative participants without dementia. *Alzheimer's & Dementia*.
2. Ho, R.L.M. Park, J., Wang, W.E., Thomas, J. S., Cruz-Almeida, Y., **Coombes, S.A.** (In Press). Lower individual alpha frequency in individuals with chronic low back pain and fear of movement. *Pain*.

3. Park, J., Nguyen, V. Q., Ho, R. L. M., & **Coombes, S. A.** (2023). The effect of chronic low back pain on postural control during quiet standing: A meta-analysis. *Scientific Reports* 13(7928), 1-15. <https://doi.org/10.1038/s41598-023-34692-w>
4. Wang, W., Chen, R., Mayrand, R.P., Adjouadi, M., Fang, R., DeKosky, S.T., Duara, R., **Coombes, S.A.**, & Vaillancourt, D.E. (2023). Association of Longitudinal Cognitive Decline with Diffusion MRI in Gray Matter, Amyloid, and Tau Deposition. *Neurobiology of Aging*. Jan;121:166-178. doi: 10.1016/j.neurobiolaging.2022.10.013. Epub 2022 Nov 5. PMID: 36455492
5. Ho, R. L. M., Wang, W., van der Veen, S. M., Antony, A., Thomas, J. S., & **Coombes, S. A.** (2022). Neurophysiology of movement inhibition during full body reaching. *Scientific Reports* 2022 12:1, 12(1), 1–9. <https://doi.org/10.1038/s41598-022-18677-9>
6. Mitchell T, Wilkes BJ, Archer DB, Chu WT, **Coombes SA**, Lai S, McFarland NR, Okun MS, Black ML, Herschel E, Simuni T, Comella C, Afshari M, Xie T, Li H, Parrish TB, Kurani AS, Corcos DM, Vaillancourt DE. (2022). Advanced diffusion imaging to track progression in Parkinson's disease, multiple system atrophy, and progressive supranuclear palsy. *Neuroimage Clin.* 34:103022. doi: 10.1016/j.nicl.2022.103022. Epub 2022 Apr 26. PMID: 35489192; PMCID: PMC9062732.
7. Chu, W.T., Wang WE, Zaborszky, L., Golde, T.E., DeKosky, S., Duara, R., Loewenstein, D.A., Adjouadi, M., **Coombes, S.A.**, & Vaillancourt, D.E. (2022). Association of cognitive impairment with free water in the nucleus basalis of meynert and locus coeruleus to transentorhinal cortex tract. *Neurology*. Feb 15;98(7):e700-e710. doi: 10.1212/WNL.00000000000013206.
8. Butera, K.A., Fox, E.J., Bishop, M.D., Beneciuk, J.M., **Coombes, S.A.**, & George, S.Z. (2022). Low risk for persistent back pain disability is characterized by lower pain sensitivity and higher physical performance. *Physical Therapy*. Mar 1;102(3):pzab283. doi: 10.1093/ptj/pzab283.
9. Lepping, R. J., McKinney, W. S., Magnon, G. C., Keedy, S., Wang, Z., **Coombes, S. A.**, Vaillancourt, D. E., & Sweeney, J. A., Mosconi, M. W. (2022). Visuomotor brain network activation and functional connectivity among individuals with autism spectrum disorder. *Human Brain Mapping*. Feb 1;43(2):844-859. doi: 10.1002/hbm.25692.
10. Fawver, B., Hass, C.J., **Coombes, S.A.**, Trapp, S.K., & Janelle, C.M. (2022). Recalling Fearful Memories Modifies Approach and Avoidance Behavior Based on Spatial Context. *Emotion*. Apr;22(3):430-443. doi: 10.1037/emo0000940.
11. Cruz-Almeida, Y., **Coombes, S.A.**, & Febo, M. (2021) Pain differences in neurite orientation dispersion and density imaging measures among community-dwelling older adults. *Experimental Gerontology*. Oct 15;154:111520. doi: 10.1016/j.exger.2021.111520.
12. See, K.B., Arpin, D.J., Vaillancourt, D.E., Fang, R., & **Coombes, S.A.**, (2021). Unraveling somatotopic organization in the human brain using machine learning and adaptive supervoxel-based parcellations. *Neuroimage*. 2021. 15;245:118710. doi: 10.1016/j.neuroimage.2021.118710.
13. Persaud-Sharma, D., Mallett, J.W., Panjeton, G.D., Ogbemudia, B., Ahmad, A., **Coombes, S.A.**, Antony, A., (2021). Neuromodulation Applications for Chronic Pain. *J. Med. Device*. 15: 040801-1 - 040801-6.
14. Wilkes, B.J., Desimone, J.C., Liu, Y., Chu, W.T., **Coombes, S.A.**, Li, Y., and Vaillancourt, D.E. (2021). Cell-specific effects of Dyt1 knock-out on sensory processing, network-level connectivity, and motor deficits. *Experimental Neurology*. Sep;343:113783.
15. Butera, K.A., Fox, E.J., Bishop, M.D., **Coombes, S.A.**, & George, S.Z. (2021). Empirically derived back pain subgroups differentiated walking performance, pain, and disability. *Pain*. 162(6): 1806-1815.
16. Chu, W.T., Mitchell, T., Foote, K.D., **Coombes, S.A.**, Vaillancourt, D.E., (2021). Functional Imaging of the Brainstem During Visually-Guided Motor Control Reveals Visuomotor Regions in the Pons and Midbrain. *Neuroimage*. 226:117627
17. Wang, W.E., Ho, R.L.M., Gatto, B., van der Veen, S.M., Underation, M.K., Thomas, J.S., Antony, A.B., and **Coombes, S.A.** (2021). Cortical Dynamics of Movement-Evoked Pain in Chronic Low Back Pain. *Journal of Physiology*. 599(1):289-305
18. Wang, W.E., Ho, R.L.M., Gatto, B., van der Veen, S.M., Underation, M.K., Thomas, J.S., Antony, A.B., and **Coombes, S.A.** (2020). A Novel Method to Understand Neural Oscillations During Full-Body Reaching: A Combined EEG and 3D Virtual Reality Study. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*. 28(12):3074-3082
19. Wang, W.E., Roy, A., Misra, G, Ho, R.L.M., Ribeiro-Dasilva, M.C. Fillingim, R.B., **Coombes, S.A.** (2020) Chronic jaw pain attenuates neural oscillations during motor-evoked pain. *Brain Research*. 1748:147085

20. Hedderson WC, Borsa PA, Fillingim RB, **Coombes SA**, Hass CJ, George SZ. (2020). Plasma Concentrations of Select Inflammatory Cytokines Predicts Pain Intensity 48 Hours Post-shoulder Muscle Injury. *Clin J Pain.* 36(10):775-781. doi: 10.1097/AJP.0000000000000861. PMID: 32675582
21. Wang, W.E., Roy, A., Misra, G, Ho, R.L.M., Ribeiro-Dasilva, M.C. Fillingim, R.B., **Coombes, S.A.** (2019). Altered Neural Oscillations Within and Between Sensorimotor Cortex and Parietal Cortex in Chronic Jaw Pain. *Neuroimage: Clinical*, 24:101964
22. Archer, D.B., Bricker, J.T., Chu, W.T., Burciu R., McCracken J.L., Lai, S., **Coombes, S.A.**, Fang, R., Corcos, D.M., Kurani, A.S., Mitchell, T., Black, M.L., Herschel, El., Simuni, T., Parrish, T.B., Comella, C., Xie, T., Seppi, K., Bohnen, N.I., Muller, M.L.T.M., Albin, R.L., Krismer, F., Du, G., Lewis, M.M., Huang, X., Li, H., Pasternak, O., McFarland, N.R., Okun, M.S., Vaillancourt, D.E. (2019). Development and Validation of the Automated Imaging Differentiation in Parkinsonism: A Machine Learning Study. *The Lancet Digital Health, Sep;1(5):e222-e231*
23. Derek B Archer, D.B. **Coombes, S.A.**, McFarland, N.R., DeKosky, S.T., & Vaillancourt, D.E. (2019). Development of a transcallosal tractography template and its application to dementia. *Neuroimage. Oct 15;200:302-312*
24. Mitchell, T., Archer, D.B., Chu, W.T., **Coombes, S.A.**, Lai, S., Wilkes, B., McFarland, N.R., Okun, M.S., Black, M.L., Herschel, E., Simuni, T., Comella, C., Xie, T., Parrish, T.B., Kurani, A.S., Corcos, D.M., Vaillancourt, D.E. (2019). Neurite orientation dispersion and density imaging (NODDI) and free-water imaging in Parkinsonism. *Human Brain Mapping, Dec 1;40(17):5094-5107*
25. Roy, A., **Coombes, S.A.**, Chung, J.W., Archer, D.B., Okun, M.S., Hess, C.W., Shukla, A.W., & Vaillancourt, D.E., (2019). Cortical dynamics within and between parietal and motor cortex in essential tremor. *Movement Disorders* 34(1): 95-104.
26. Roy, A, Wang, W.E., Ho, R.L.M. Ribeiro-Dasilva, M.C Fillingim R.B. & **Coombes, SA.** (2018). Functional brain activity during motor control and pain processing in chronic jaw pain. *Pain* 159(12): 2547-2564.
27. Chung JW, Burciu RG, Ofori E, **Coombes, S.A.**, Christou, EA., Okun, Hess CW, Vaillancourt DE. (2018). Beta-band Oscillations in the Supplementary Motor Cortex are Modulated by Levodopa and Associated with Functional Activity in the Basal Ganglia. *Neuroimage: Clinical.* 19: 559-571.
28. **Coombes, S.A.** W.E. Wang, Roy, A., Ho, RLM, (2018) Neurophysiological evidence of the dynamic and adaptive pain-motor interaction. *The Journal of Physiology.* 596(14): 2639-2640.
29. W.E. Wang, Roy, A., Misra, G, Archer, D.B., Ribeiro-Dasilva, M.C. Fillingim, R.B., **Coombes, S.A.** (2018) Motor-evoked pain increases force variability in chronic jaw pain. *The Journal of Pain.* 19(6): 636-648
30. Archer, DB. Vaillancourt, DE, & **Coombes, S.A.** (2018) A Template and Probabilistic Atlas of the Human Sensorimotor Tracts using Diffusion MRI. *Cerebral Cortex.* 28(5):1685-1699
31. Archer, D.B., **Coombes, S.A.**, Chu, W.T., Chung, J.W., Burciu, R.G., Okun, M.S., Shukla, A., Vaillancourt, D.E. (2018) "Reply: Visually-sensitive networks in essential tremor: evidence from structural and functional imaging." *Brain* 141(6): e48
32. Archer, D.B., **Coombes, S.A.**, Chu, W.T., Chung, J.W., Burciu, R.G., Okun, M.S., Shukla, A., Vaillancourt, D.E. (2018) A widespread visually-sensitive functional network relates to symptoms in essential tremor. *Brain,* 141(2):472-485.
33. Archer, DB. Kang, N., Misra, G., Marble, S., Patten, C, and & **Coombes, S.A.** (2017). Visual feedback alters force control and functional activity in the visuomotor network after stroke. *Neuroimage: Clinical.* 14;17:505-517
34. Burciu RG, Hess CW, **Coombes SA**, Ofori E, Shukla P, Chung JW, McFarland NR, Shukla AW, Okun MS, Vaillancourt DE. (2017). Functional Activity of the Sensorimotor Cortex and Cerebellum Relates to Cervical Dystonia Symptoms. *Human Brain Mapping.* 38(9):4563-4573
35. Archer, DB. Patten, C, and & **Coombes, S.A.** (2017). Free-water and free-water corrected fractional anisotropy in primary and premotor corticospinal tracts in chronic stroke. *Human Brain Mapping.* 38(9):4546-4562
36. Misra, G., Ofori, E. Chung, J., & **Coombes, S.A.** (2017). Pain-related suppression of beta oscillations facilitates voluntary movement. *Cerebral Cortex.* 27:2592-2606.
37. Misra, G., Wang, W-E. Archer, D.B., Roy, A., & **Coombes, S.A.** (2017). Automated classification of pain perception using high density electroencephalography data. *Journal of Neurophysiology.* 1;117(2):786-795.
38. Archer, D.B., Misra, G., Patten, C.P., & **Coombes, S.A.** (2016). Microstructural properties of premotor pathways predict visuomotor performance in chronic stroke. *Human Brain Mapping.* 37(6):2039-54.
39. **Coombes, S.A.** & Misra, G. (2016). Pain and motor processing in the human cerebellum. *PAIN.* 157(1):117-27.
40. Ofori, E., **Coombes, S.A.**, & Vaillancourt, D.E. (2015). 3D Cortical Electrophysiology of Upper Limb Movement in Humans. *NeuroImage.* 115:30-41.

41. Misra, G. & **Coombes, S.A.** (2015). Neuroimaging evidence of motor control and pain processing in the human midcingulate cortex. *Cerebral Cortex*. 25(7):1906-19.
42. Misra G., Paris, T.A., Archer, D.B., **Coombes, S.A.** (2014) Dose-Response Effect of Isometric Force Production on the Perception of Pain. *PLoS ONE* 9(2): e88105.doi:10.1371/journal.pone.0088105.
43. Morishita T, Foote K.D, Archer D.B, **Coombes S.A**, Vaillancourt D.E, Hassan A, Haq IU, Wolf J, Okun MS. (2014). Smile without euphoria induced by deep brain stimulation: a case report. *Neurocase*. 2014 Oct 31:1-5.
44. Paris, T.A., Misra, G. Archer, D.B. & **Coombes, S.A.** (2013). Effects of a force production task and a working memory task on pain perception. *Journal of Pain*, 14(11):1492-1501.
45. Lodha, N., Misra, G., Christou, E.A., **Coombes, S.A.**, & Cauraugh, J.H. (2013). Increased Force Variability in Chronic Stroke: Contributions of Force Modulation below 1 Hz. *PLoS One*, 8(12): e83468. doi:10.1371/journal.pone.0083468.
46. Poon, C., **Coombes, S.A.**, Corcos, D.M, Christou, E.A., & Vaillancourt, D.E. (2013). Transient shifts in frontal and parietal circuits scale with enhanced visual feedback and changes in force variability and error. *Journal of Neurophysiology*, 109(8):2205-15.
47. Lodha, N., Patten, C., **Coombes, S.A.**, & Cauraugh, J.H. (2012). Bimanual force control strategies in chronic stroke: Finger extension versus power grip. *Neuropsychologia*. 50(11):2536-45.
48. Poon, C., Chin-Cottongim, L., **Coombes, S.A.**, Corcos, D.M, & Vaillancourt, D.E. (2012). Spatiotemporal dynamics of brain activity during the transition from visually guided to memory guided force control. *Journal of Neurophysiology*. 108(5):1335-48.
49. Neely, K.A., **Coombes, S.A.**, Planetta, P.J., & Vaillancourt, D.E. (2013). Segregated and overlapping neural circuits exist for the production of static and dynamic precision grip force. *Human Brain Mapping*, 34(3):698-712.
50. Chalabaev, A., Brisswalter, J. & Radel, R, **Coombes, S.A.**, Easthope, C.S., Maazoun, M., & Clément-Guillotin, C. (2013). Can stereotype threat affect motor performance in the absence of explicit monitoring processes? Evidence using a strength task. *Journal of Sport & Exercise Psychology*, 35(2):211-5.
51. Lodha, N., **Coombes, S.A.**, & Cauraugh, J.H. (2012) Bimanual isometric force control: Asymmetry and coordination evidence post stroke. *Clinical Neurophysiology*. 123(4):787-95.
52. **Coombes, S.A.**, Corcos, D.M, Pavuluri, M.N., & Vaillancourt, D.E. (2012). Maintaining force control despite changes in emotional context engages dorsomedial prefrontal and premotor cortex. *Cerebral Cortex*, 22(3), 616-627. PMID: PMC3278319.
53. Naugle, K.M. **Coombes, S.A.**, Cauraugh, J. M., Janelle, C.M. (2012). Influence of emotion on the control of low-level force control. *Research Quarterly for Exercise and Sport*. 83(2), 353-8.
54. **Coombes, S.A.**, Corcos, D.M, & Vaillancourt, D.E. (2011). Spatiotemporal tuning of brain activity and force performance. *NeuroImage*, 54(3), 2226-36. PMID: PMC3008211.
55. Payen, V., Elliot, A.J., **Coombes, S.A.**, Chalabaev, A., Brisswalter, J. & Cury, F. (2011). Perception of the color red alters performance on a simple motor task. *Neuroscience Letters*, 495(1), 44-8.
56. Naik, S.K., Patten, C. Lodha, N., **Coombes, S.A.**, & Cauraugh, J.H. (2011). Force control deficits in chronic stroke: grip formation and release phases. *Experimental Brain Research*. 211(1), 1-15.
57. Cauraugh, J. M., Naik, S. K., Lodha, N., **Coombes, S.A.**, & Summers, J.J. (2011). Long-term Rehabilitation for Chronic Stroke Arm Movements: A Randomized Controlled Trial. *Clinical Rehabilitation*. 25(12), 1086-96.
58. Gamble, K.M., Joyner, J., **Coombes, S.A.**, Hass, H.J., Janelle, C.M. (2011). Emotional state affects the initiation of forward gait. *Emotion*, 11(2), 267-77.
59. Eccles, D.W., Ward, P., Woodman, T., Janelle, C.M., Le Scanff, C., Ehrlinger, J., Castiner, C., **Coombes, S.A.** (2011). Where's the Emotion? How Sport Psychology Can Inform Research on Emotion in Human Factors. *Human Factors*, 53(2),180-202.
60. Mann, D.T.Y., **Coombes, S.A.**, Mousseau, M.B., Janelle, C.M. (2011). Quiet Eye and the Bereitschaftspotential: Visuomotor antecedents to expert motor performance. *Cognitive Processing*. 12(3):223-34.
61. **Coombes, S.A.**, Naugle, K.M., Barnes, R.T., Janelle, C.M. (2011). Emotional reactivity and force control: The influence of behavioral inhibition. *Human Movement Sciences*, 30(6), 1052-61.
62. Naugle, K.M., **Coombes, S.A.**, Janelle, C.M. (2010). Subclinical depression modulates the impact of emotion on force control. *Motivation and Emotion*, 4, 432-445.
63. Cauraugh, J.H., Naik, S.K., Hsu, W.H., **Coombes, S.A.**, Holt, K.G., (2010). Children with cerebral palsy: a systematic review and meta-analysis on gait and electrical stimulation. *Clinical Rehabilitation*, 24, 963-978.
64. **Coombes, S.A.**, Corcos, D.M, Sprute, L., & Vaillancourt, D.E. (2010). Selective regions of the visuomotor system are related to gain induced changes in force error. *Journal of Neurophysiology*, 103: 2114-2123.

65. Lodha, N., Naik, S.K., **Coombes, S.A.**, & Cauraugh, J.H. (2010). Force control and degree of motor impairments in chronic stroke. *Clinical Neurophysiology*, *121*(11), 1952-61.
66. Barnes, R.T., **Coombes, S.A.**, Armstrong, N.B., Higgins, T.J., Janelle, C.M. (2010). Evaluating the attentional consequences of affective changes following an acute exercise bout using a modified dot probe protocol. *Journal of Sport Science*, *28*(10), 1065-1076.
67. Wasson, P., Prodoehl, J., **Coombes, S.A.**, Corcos, D.M., & Vaillancourt, D.E. (2010). Predicting Grip Force Amplitude Involves Circuits in the Anterior Basal Ganglia. *NeuroImage*, *49*(4), 3230-8.
68. **Coombes, S.A.**, Tandonnet, C., Fujiyama, H., Janelle, C.M., Cauraugh, J.H., & Summers, J.J. (2009). Emotion and motor preparation: A transcranial magnetic stimulation study of corticospinal motor tract excitability. *Cognitive, Affective, and Behavioral Neuroscience*, *9*(4), 380-388.
69. **Coombes, S.A.**, Higgins, T., Gamble, K.M., Cauraugh, J.H., & Janelle, C.M. (2009). Attentional Control Theory: Anxiety, Emotion, and Motor Planning. *Journal of Anxiety Disorders*, *23*(8), 1072-1079.
70. **Coombes, S.A.**, Janelle, C.M., & Cauraugh, J. M. (2009). Chronic stroke and aging: The impact of acoustic stimulus intensity on fractionated reaction time. *Neuroscience Letters*, *452*(2), 151-155.
71. Cauraugh, J. M., **Coombes, S.A.**, Lodha, N., & Summers, J.J. (2009). Upper extremity improvements in chronic stroke: Coupled bilateral load training. *Restorative Neurology and Neuroscience*, *27*, 17-25.
72. Janelle, C.M., Hausenblas, H. A., Ellis, R. E., **Coombes, S.A.**, & Duley, A. R. (2009). The time course of attentional allocation while women high and low in body dissatisfaction view self and model physiques. *Psychology & Health*, *24*(3), 351-366.
73. **Coombes, S.A.**, Gamble, K.M., Cauraugh, J.H., & Janelle, C.M. (2008). Emotional states alter force control during a feedback occluded motor task. *Emotion*, *8*(1), 104-113.
74. **Coombes, S.A.**, Cauraugh, J. M., & Janelle, C.M. (2007). Dissociating motivational direction and affective valence: Discrete emotions alter central motor processes. *Psychological Science*, *18*(11), 938-942.
75. **Coombes, S.A.**, Cauraugh, J. M., & Janelle, C.M. (2007). Emotion and initiating cue alter central and peripheral motor processes. *Emotion*, *7*(2), 275-284.
76. Duley, A. R., Hillman, C.H., **Coombes, S.A.**, & Janelle, C.M. (2007). Sensorimotor gating and anxiety: Prepulse inhibition following acute exercise. *International Journal of Psychophysiology*, *64*(2), 157-64.
77. **Coombes, S.A.**, Cauraugh, J.H., & Janelle, C.M. (2006). Emotion and movement: Activation of defensive circuitry alters the magnitude of a sustained muscle contraction. *Neuroscience Letters*, *396*, 192-196.
78. **Coombes, S.A.**, Janelle, C.M., & Duley, A. R. (2005). Emotion and motor control: movement attributes following affective picture processing. *Journal of Motor Behavior*, *37*(6), 425-436.
79. **Coombes, S.A.**, Janelle, C.M., Duley, A. R., & Conway, T. (2005). Adults with dyslexia: Theta power changes during performance of a novel motor task. *International Journal of Psychophysiology*, *56*, 1-14.
80. Duley, A. R., Janelle, C.M., **Coombes, S.A.** (2004). An open-source LabVIEW application toolkit for phasic heart rate analysis in psychophysiological research. *Behavior Research Methods, Instruments, & Computers*, *36*, 778-783.
81. Janelle, C.M., Champenoy, J., **Coombes, S.A.**, & Mousseau, M. B. (2003). Mechanisms of attentional cueing during observational learning to facilitate motor skill acquisition. *Journal of Sport Sciences*, *21*, 825-838.

BOOK CHAPTERS

1. Janelle, C.M., **Coombes, S.A.**, Singer, R. N., & Duley, A. R. (2006). Disposition and Environment: Understanding Expert Sport Performance. In Strauß, B., Tietjens, M. & Hagemann, N. (Eds.). *Psychologie der sportlichen Höchstleistung* (Psychology of Sporting Excellence). Göttingen: Hogrefe.
2. Janelle, C.M., Duley, A. R., & **Coombes, S.A.**, (2004). Psychophysiological related indices of attention during motor skill acquisition. In A.M. Williams, N.J. Hodges, M.A. Scott and M.L.J. Court (Eds.), *Skill Acquisition in Sport: Research, Theory and Practice*. Routledge.
3. Janelle, C.M., **Coombes, S.A.**, & Gamble, K.M. (2010). The motion of emotion: Affective influences on movement planning and execution. In T. Marek, W. Karwowski, & V. Rice (Eds.), *Advances in Understanding Human Performance: Neuroergonomics, Human Factors Design, and Special Populations*. New York: Taylor and Francis.

RESEARCH FUNDING

Ongoing

1. PI. Understanding the Role of Bilingualism in Cognitive Reserve/Resilience in Aging and AD/ADRD. NIA R01AG080468-01, MPI Rosselli. 2022-2027. \$2,999,709.46
2. PI. Biopsychosocial pain predictors of mobility decline in aging. NIA R01AG076082, MPI: Cruz-Almeida. 2022-2027. \$2,950,648
3. Co-Mentor. Neurodegeneration and Neuronal Fluctuations in DLB and AD. NINDS 1K23AG073525. PI Chui, Shannon. 2022-2027. \$773,416.
4. Co-Inv. Cerebellar and Basal Ganglia Markers Underlie Neuromotor Impairments in Adults with Autism Spectrum Disorder (ASD). NINDS, R01NS121120. PI: Zheng Wang. 2021-2026. \$1,400,000
5. Co-Inv. Non-invasive markers of neurodegeneration in movement disorders. NINDS RO1NS075012. PI: David E. Vaillancourt. 2012-2023. \$2,454,444
6. Co-Inv. 1FLORIDA Alzheimer's Disease Research Center Biomarker Core. NIA 1P30AG066506-01. PI: Vaillancourt. 2020 – 2025. Biomarker core budget is \$924,762 direct costs over 5 years. Total budget is \$15,242,006 over 5 years.
7. Mentor. Integrative and multidisciplinary pain and aging research training NIA T32AG049673. Postdoctoral Fellowship. Mentee: Rachel Ho. PI: Roger Fillingim. 2023 – 2025. \$129,805.60
8. Co-Inv. Nervous system influences on recovery from painful rotator cuff tears. R01AR080058. PI: Pozzi. 2023-2028. \$2,805,711
9. Co-Inv. The function of descending and ascending pathways in spastic hypertonia and hyperreflexia. 1R01NS131227-01. PI: Vhadat. 2023-2028. \$1,880,144
10. Co-Inv. FDOH 23K07. The function of Spinal cord-Brain pathways in Spasticity after stroke PI: Vhadat. 2023-2026. \$565,489.

Pending

1. Co-Inv. Quantification of the neurocognitive, brain, and blood markers of dementia in middle-aged autistic adults. PI: Wang. R01. \$5,181,953
2. Co-Inv. Predicting Risk of Recurrent Low Back Pain. PI: Thomas. R01. Subproject total \$556,886
3. Co-Inv. BEAT: Biobehavioral Evaluation and Assessment for Treatment of Back Pain. PI: Thomas. Subproject total \$556,886

Past Funding

1. Mentor. Team Science TL1 Training Grant - Predoctoral Fellowship (TL1TR001428 and UL1TR001427). PI: Wayne McCormack. Mentee: Rachel Ho. 2019 – 2021. \$64,104.00
2. Co-Inv. Biobehavioral basis of knee OA – AD supplement. NIH-NIA R01AG067757-02S2. PI: Cruz-Almeida 2021 – 2022. \$65,345
3. Co-Inv. Role of the cortex and cerebellum in visually-guided motor behavior. NINDS (RO1NS058487). PI: David E. Vaillancourt. 2008-2021. \$1,542,934
4. Co-Inv. Neuroimaging Biomarkers in Parkinsonism: Differentiating Subtypes and Tracking Disease Progression. NINDS U01 NS102038-01. PI: David E. Vaillancourt. 2017-2020. \$3,904,379
5. Co-Inv. Cerebellar and basal ganglia contributions to neuromotor decline in adults with autism spectrum disorder (ASD). (NIA R21AG065621). PI: Zheng Wang. 2020-2021. \$228,750.
6. Co-Inv. University of Florida - Mt. Sinai Medical Center AD Research Center. NIH-NIA P50 AG047266-03. PI: Golde. 2015 – 2020.
7. PI. Structure and function of premotor cortex in chronic stroke. AHA-Grant in Aid (15GRNT25700431). 2015-2017 \$165,000.
8. PI. Neuroimaging of Pain in Cancer Survivors. UF PRICE-UFSCC Cancer Pain Seed grant. 2015-2016. \$14,500
9. PI. Cortical and subcortical brain function in chronic stroke. James and Esther King Biomedical Research Program, Florida Department of Health (3KN01). 2012-2015. \$384,205
10. PI. fMRI Studies of Emotion and Movement. Ruth L. Kirschstein National Research Service Award. NIMH (F32MH083424). 2009-2011. \$103,177.
11. Trainee. Training Grant in the Neuroscience of Mental Health. Postdoctoral Fellowship (T32MH067631). PI: Mark Rasenick. 2008-2009. \$43,426.

12. PI. Motivational priming and acoustic initiated movement: facilitating motor function post stroke. American Heart Association Pre-doctoral fellowship: Florida/Puerto Rico Affiliate (0515120B). 2005-2007. \$42,000.
13. PI. The defense cascade and overt movement: Optimizing preplanned motor action. North American Society for the Psychology of Sport and Physical Activity. Graduate Student Research Grant. 2005. \$994.
14. Co-PI. Exercise, anxiety, and short-lead startle modification: Using prepulse inhibition to index changes in attentional bias following acute exercise. North American Society for the Psychology of Sport and Physical Activity. Graduate Student Research Grant. 2004. \$994.

GRANT REVIEWER

1. Reviewer for FWO: Research Foundation – Flanders. Belgium. August 2012
2. US Army Research Office. LS/Neurosciences (AMSRL-RO-PL). August 2012
3. Reviewer for FWO: Research Foundation – Flanders. Belgium. May 2013
4. Reviewer for FWO: Research Foundation – Flanders. Belgium. April 2014
5. Reviewer for FWO: Research Foundation – Flanders. Belgium. March 2015
6. Reviewer for FWO: Research Foundation – Flanders. Belgium. May 2016
7. Reviewer for FWO: Research Foundation – Flanders. Belgium. May 2017
8. Permanent member: MED8 study section. FWO: Research Foundation – Flanders. Belgium. May 2019-2020
9. Chair: MED8 study section. FWO: Research Foundation – Flanders. Belgium. May 2020-2022
10. Southern California Clinical and Translational Science Institute. October 2020
11. Chair: MED9 study section. FWO: Research Foundation – Flanders. Belgium. October 2022-2023

CONFERENCE PRESENTATIONS (89)

1. Lang, M., Carhuavilca, F., Velez-Urbe, I., Velasquez de Lopez, K., Gonzalez Pineiro, Y., Barker, W., Duara, R., Smith, G., Curiel, R., Loewenstein, D.A., **Coombes, SA.**, & Rosselli, M. (Submitted) Longitudinal Cognitive Changes and Brain Biomarkers in Bilingual Hispanics/Latinos with MCI: Preliminary Analyses. 4th Latinos and Alzheimer's Symposium, Alzheimer's Association, San Diego April 2024
2. Nguyen, VQ, Park, J, Ho, RLM, **Coombes, SA.** Alpha-Oscillatory Activities in response to Thermal Pain Stimulation. Poster presentation at Stanley Poster Symposium; 2023 Feb 24; Gainesville, Florida.
3. Nguyen, VQ, Park, J, Ho, RLM, **Coombes, SA.** Regional Specific Changes in Alpha Reactivity During Tonic Pain Stimulation. Poster presentation at Society for Neuroscience (SfN) Neuroscience 2023; 2023 Nov 11-15; Washington, DC.
4. Park, J, Ho, RLM, Wang, WE, Nguyen, VQ, **Coombes, SA.** The aging effect on alpha rhythms varies across cortical regions derived from source localized resting-state electroencephalography. Poster presentation at Society for Neuroscience (SfN) Neuroscience 2023; 2023 Nov 11-15; Washington, DC.
5. Rosselli, M., Velez-Urbe, I., Asken, B.M., Barker W.W., **Coombes, S. A.**, Duara, R., & Adjouadi, M. (2023, July). The relationship between Structural, PET, and Plasma Alzheimer's Disease Biomarkers and neuropsychological composites among Latino bilinguals and monolinguals. In Alzheimer's Association International Conference. ALZ. The relationship between Structural, PET, and Plasma Alzheimer's Disease Biomarkers and neuropsychological composites among Latino bilinguals and monolinguals. Alzheimer's Association International Conference, Amsterdam, The Netherlands, July, 2023
6. Rosselli, M., Velez-Urbe, I., **Coombes, SA.**, WW Barker, Duara, R, Smith, G.E., Curiel, R.E., Loewenstein, D.A., & Marsiske, M. Bilingualism in the Clinical Diagnosis of Mild Cognitive Impairment and Dementia. Alzheimer's Association International Conference, The Netherlands, July, 2023
7. Alexiadis, CE, Shin, Y, Wilhelm, C, Cruz-Almeida, Y, & **Coombes, SA.** Mapping the cognitive system using functional MRI in young vs. old adults. Poster presentation at UF College of Health and Human Performance D.K. Stanley Day Symposium; 2023 Feb 24; Gainesville, FL.
8. Alexiadis, CE, Shin, Y, Cruz-Almeida, Y, & **Coombes, SA.** Mapping working memory brain circuits in older adults: Evidence from fMRI. Poster presentation at University of Florida 2023 Fall Undergraduate Research Symposium; 2023 Nov 8; Gainesville, FL.

9. Ho, R.L.M., Park, J., Alexiadis, C.E., Wang, W., Cruz-Almieda, Y., **Coombes, S.A.** Lower individual alpha frequency in individuals with chronic low back pain and fear of movement, Poster presentation at Society for Neuroscience (SFN); 2023 Nov 11-15; Washington, D.C.
10. Wang, J, Christensen, D, **Coombes, SA**, Wang, Z. A meta-analysis for exploring dementia-associated cognitive dysfunctions and brain morphological changes in middle-to-old aged autistic adults. Poster presentation at Society for Neuroscience (SfN) Neuroscience 2023; 2023 Nov 11-15; Washington, DC.
11. Shin, Y, **Coombes, SA**, Orlando, AM, Romero, RA, Shirley, D, Vaillancourt, DE, & Wang, Z Diffusion magnetic resonance imaging in autistic adults: Linking free-water to clinical severity and cognitive function. Poster presentation at Society for Neuroscience (SfN) Neuroscience 2023; 2023 Nov 11-15; Washington, DC.
12. Butera KA, Fox EJ, Bishop MD, **Coombes SA**, George SZ. (2022). Characterizing Movement-Evoked Pain in a Sample of Community-Dwelling Adults with Low Back Pain. Poster Presentation at the 2022 World Congress on Pain. International Association for the Study of Pain. Toronto, Canada.
13. Butera KA, Fox EJ, Bishop MD, **Coombes SA**, George SZ. (2022). Chronic Low Back Pain is Associated with Altered Walking Performance and Reduced Walking Capacity. Poster Presentation at the 2022 World Congress on Pain. International Association for the Study of Pain. Toronto, Canada
14. Wang, Z., **Coombes, S.A.**, Vaillancourt, D.E., Shirley, D.J., Valcante, G., Orlando, A-M., Romero, R.A., Karmakar, B., Wagle Shukla, A. A., Mosconi, M.W. (2021). Atypical cortical and subcortical brain activation associated with precision visuomotor control in autistic adults. Society for Neuroscience (SfN) annual conference. Chicago, IL.
15. Butera KA, Fox EJ, Freeborn P, Patel J, Bishop MD, **Coombes SA**, George SZ. (2021). Low Back Pain Subgroups Classified by Psycho-sensorimotor Factors Demonstrate Differences in Walking Function, Pain, and Disability. Poster Presentation at the 2021 Virtual World Congress on Pain. International Association for the Study of Pain.
16. Butera KA, Fox EJ, Bishop MD, **Coombes SA**, Beneciuk JM, George SZ. (2021). Lower pain sensitivity and higher physical performance contribute to low risk Start Back Tool classification. Oral Presentation at the 2021 American Physical Therapy Association Combined Sections Meeting. Virtual Meeting.
17. Butera KA, George SZ, Freeborn P, Patel J, Bishop MD, **Coombes SA**, Fox EJ. (2020). Low back pain-related walking impairments are associated with pain sensitivity, movement-evoked pain, and psychological factors. Oral Presentation at the 2020 American Physical Therapy Association Combined Sections Meeting. Denver, CO.
18. Ho, R.L.M., Wang, W., Ding, H., Huo, Z., Cruz-Almeida, Y., **Coombes, S.A.** (2021). The heat- pain stimulus-response curve: effects of age and chronic pain. Society for Neuroscience Global Connectome – virtual poster
19. Wang, WE., Ho, RLM, **Coombes, SA.**, (2019). Altered alpha and beta oscillations in parietal and occipital cortices in chronic jaw pain. Society for Neuroscience. Chicago, IL.
20. Ho, RLM; Wang, WE., Alderuccio, JK., Brody-Heim, GAK., Klein, ML., Antony, A., Thomas, JS., **Coombes, SA.** (2019). Effect of chronic low back pain on movement inhibition using a go/no-go paradigm. Society for Neuroscience. Chicago, IL
21. Wang W, Roy A, Misra G, Archer DB, Ribeiro-Dasilva MC, Fillingim RB, **Coombes SA.** (2018). Chronic Jaw Pain is characterized by Altered Beta Oscillations in Sensorimotor and Prefrontal Cortex. Cutting-edge EEG Conference – 4th Symposium on cutting-edge methods for EEG Research. Paris. France.
22. Wang W, Roy A, Misra G, Archer DB, Ribeiro-Dasilva MC, Fillingim RB, **Coombes SA.** (2018). Chronic Jaw Pain is characterized by Altered Beta Oscillations in Sensorimotor and Prefrontal Cortex. Organization for Human Brain Mapping Annual Meeting. Singapore.
23. Roy, A, **Coombes, SA**, Cheung, J., Archer, DB, Okun, M., Hess, C., Shukla, A., Vaillancourt, DE. (2018) Cortical dynamics within and between parietal and motor cortex in essential tremor. Neural Control of Movement. Santa Fe, NM.
24. Roy, A, Wang W, Judy, R, Ribeiro-Dasilva MC, Fillingim RB, **Coombes, SA.** (2018) Functional brain activity during motor control and pain processing in chronic jaw-pain. Neural Control of Movement. Santa Fe, NM.
25. Butera KA, Bishop MD, Fox EJ, **Coombes SA**, Fillingim RB, George SZ. (2018). Sensory and psychological factors contributing to motor outcomes for high-risk healthy individuals experiencing exercise-induced muscle injury. Poster Presentation at the IASP 17th World Congress on Pain. Boston, MA
26. **Coombes, S.A.** Roy, A, Wang, W-E. (2017). Motor-evoked pain increases force variability in chronic jaw pain. Society for Neuroscience. Washington D.C.
27. Archer, D.B., **Coombes, S.A.**, Chu, W.T., Chung, J.W., Burciu, R.G., Okun, M.S., Shukla, A., Vaillancourt, D.E. (2017) A widespread visually-sensitive functional network relates to symptoms in essential tremor. Society for Neuroscience. Washington D.C.

28. **Coombes, S.A.**, (2017). The motor system in acute and chronic pain. *Neural Control of Movement*. Dublin, Ireland.
29. **Coombes, S.A.** Misra, G., Wang, W-E. (2016). High density electroencephalography and automated classification of pain perception Society for Neuroscience. San Diego, CA
30. Archer, D.B., & **Coombes, S.A.** (2016). Free-water and free-water corrected fractional anisotropy within the primary and secondary corticospinal tracts predict grip strength in chronic stroke. Society for Neuroscience. San Diego, CA
31. Misra, G., Ofori, E. Chung, J., & **Coombes, S.A.** (2015). Pain-related suppression of beta oscillations facilitate movement initiation. Society for Neuroscience. Chicago, IL
32. Archer, D.B., Misra, G., Vaillancourt, D.E., Patten, C.P., Marble, S. & **Coombes, S.A.** (2015). Visual gain induced changes in visuomotor system activity in chronic stroke. Society for Neuroscience. Chicago, IL
33. Misra, G. & **Coombes, S.A.** (2015). Differences between neural correlates of high intensity and low intensity pain. American Pain Society, Palm Springs, CA.
34. Misra, G., Ofori, E. Chung, J., & **Coombes, S.A.** (2014). High Density Electroencephalography (EEG) correlates of pain- related changes in upper limb movements. Society for Neuroscience. Washington D.C.
35. Archer, D.B., Misra, G., Vaillancourt, D.E., Patten, C.P., & **Coombes, S.A.** (2014). Error Augmentation in Chronic Stroke: Behavioral & Neuroanatomical Correlates. Society for Neuroscience. Washington D.C.
36. Mosconi MW, Vaillancourt DE, **Coombes SA**, Sweeney JA. (2014). Cortical-cerebellar abnormalities underlying visuomotor control deficits in autism spectrum disorder. Society of Neuroscience (SfN). Washington, DC.
37. Misra, G. & **Coombes, S.A.** (2014). Dose-response effect of isometric force production on the perception of pain. American Pain Society, Tampa, FL.
38. Morishita, T., Okun, M.S., Archer, D.B., **Coombes, S.A.**, Hassan, A, Haq, I.U., Foote, K.D., Vaillancourt, D.E. (2014). Smile Without Mirth Induced by Deep Brain Stimulation: A Diffusion Tractography Study. American Association of Neurological Surgeons, San Francisco, CA
39. Mosconi, M.W., Mohanty, S. Vaillancourt, D.E., **Coombes, S.A.**, Greene, R., Schmitt, L.M., Sweeney, J.A. (2014). Sensory Contributions to Motor Control Abnormalities in Autism Spectrum Disorder (ASD). International Meeting for Autism Research (IMFAR). Atlanta, GA.
40. Mohanty S., Vaillancourt, D.E., **Coombes, S.A.**, Schmitt, L.M., Sweeney, J.A., Mosconi, M.W. (2013). Atypical premotor, parietal, and cerebellar functioning underlies sensorimotor impairment in autism. Society for Neuroscience. San Diego, CA.
41. Paris, T., Misra, G. Archer, D.B. & **Coombes, S.A.** (2013). Effects of force production and verbal working memory on pain perception. Society for Neuroscience. San Diego, CA.
42. Archer, D.B., Misra, G., Patten, C.P., & **Coombes, S.A.** (2013). Probabilistic tractography of transcallosal motor tracts in the chronic phase after stroke. Society for Neuroscience. San Diego, CA.
43. Misra, G., & **Coombes, S.A.**, (2013) Common representation of motor and pain processing in human cerebellum. Society for Neuroscience. San Diego, CA.
44. Lodha, N., Misra, G., Christou, E.A., **Coombes, S.A.**, & Cauraugh, J.H. (2013). Low frequency oscillations in force control: Chronic stroke versus age-matched controls. Society for Neuroscience. San Diego, CA.
45. Misra, G., & **Coombes, S.A.**, (2012). Functional anatomy of motor and pain processes in cortical and subcortical networks. Society for Neuroscience. New Orleans, LA.
46. Vaillancourt, D.E., Poon, C., **Coombes, S.A.**, Corcos, D.M., Christou, E.A. (2012). Acute adaptation to enhanced visual feedback causes transient shifts in brain activity in parietal-frontal circuits that relate to motor performance. Society for Neuroscience, New Orleans, LA.
47. Tennant, J.E., Beatty, G.F., **Coombes, S.A.**, and Janelle, C.J. (2012). Attentional bias and ballistic movements. Association for Psychological Science, Chicago, IL.
48. Neely, K., **Coombes, S.A.**, Planetta, P., & Vaillancourt, D.E. (2011). Lateralized brain circuits mediate static and dynamic precision grip force production. *Neural Control of Movement*. Puerto Rico.
49. Mosconi, M.W., **Coombes, S.A.**, D’Cruz, A-M., Schmitt, L., Shrestha, S., Vaillancourt, D.E., & Sweeney, J.A. (2011). Atypical premotor, parietal, and cerebellar functioning underlies sensorimotor impairment in autism. International Meeting for Autism Research (IMFAR). San Diego, CA.
50. Mosconi, M.W., **Coombes, S.A.**, Ankeny, L., D’Cruz, A., Zhang, Z., Schmitt, L., Khine, T., Vaillancourt, D.E., & Sweeney, J.A. (2010). Atypical brain function underlying sensorimotor alterations in autism. American College of Neuropsychopharmacology, Miami, FL.

51. Poon, C., Chin-Cottongim, L., **Coombes, S.A.**, Corcos, D.M, & Vaillancourt, D.E. (2010). Spatiotemporal dynamics during the transition from a visually-guided to a memory-guided force control task: an EEG-ERP study. Society for Neuroscience. San Diego, CA.
52. Janelle, C.M., Gamble, K., **Coombes, S.A.**, Hass, C.J. (2010). Emotional influences on approach and avoidance behavior: Micro indices of macro behavioral tendencies. North American Society for the Psychology of Sport and Physical Activity (NASPSPA). Tucson, AZ.
53. Lodha, N., Naik, S.K., **Coombes, S.A.**, & Cauraugh, J.H. (2010). Force Production and Modulation in Power Grip: Chronic Stroke and Bimanual Coordination. North American Society for the Psychology of Sport and Physical Activity (NASPSPA). Tucson, AZ.
54. Lodha, N., Naik, S.K., **Coombes, S.A.**, & Cauraugh, J.H. (2010). Asymmetry in Bimanual Force Production Post Stroke: Task Specificity and Degree of Motor Impairments. Neural Control of Movement, Naples, FL
55. Janelle, C.M., Gamble, K., **Coombes, S.A.** (2010). The motion of emotion: Affective influences on movement planning and execution. 3rd International Conference on Applied Human Factors and Ergonomics, Miami, FL.
56. **Coombes, S.A.**, Corcos, D.M, & Vaillancourt, D.E. (2009). Spatial and temporal properties of visual feedback interact to alter force performance. Society for Neuroscience. Chicago, IL.
57. **Coombes, S.A.**, Corcos, D.M, & Vaillancourt, D.E. (2009). Spatial features of motion stimuli and visually guided force control: Neural activity in the visuomotor system scales with changes in behavior. North American Society for the Psychology of Sport and Physical Activity (NASPSPA). Austin, TX.
58. Lodha, N., Naik, S.K., **Coombes, S.A.**, & Cauraugh, J.H. (2009). Force control and disease severity in chronic stroke. North American Society for the Psychology of Sport and Physical Activity (NASPSPA). Austin, TX.
59. Higgins, T., **Coombes, S.A.**, Gamble, K.G., Cauraugh, J.H., & Janelle, C.M. (2009). Attentional Control Theory: Anxiety, Emotion, and Motor Planning. North American Society for the Psychology of Sport and Physical Activity (NASPSPA). Austin, TX.
60. Gamble, K., **Coombes, S.A.**, Janelle, C.M. (2009). Depression predicts the relationship between emotional state and force control. North American Society for the Psychology of Sport and Physical Activity (NASPSPA). Austin, TX.
61. Barnes, R.T., Gamble, K.M., **Coombes, S.A.**, & Janelle, C.M. (2009) Inefficiency in force production persists among high anxious individuals despite alterations in affective state following acute aerobic exercise and quiet rest. Association for Psychological Science (APS). San Francisco, CA.
62. **Coombes, S.A.**, Corcos, D.M, & Vaillancourt, D.E. (2009). Neural activation in the visuomotor system scales with changes in the spatial features of motion stimuli. Neural Control of Movement, Hawaii, USA
63. Lodha, N., Naik, S.K., **Coombes, S.A.**, & Cauraugh, J.H. (2008) Unimanual and bimanual force production: Task constraints may alter force regularity. 4th Annual Neuromuscular Plasticity Symposium. University of Florida, Gainesville, FL.
64. Gamble, K.M., **Coombes, S.A.**, Barnes, R.T., Janelle, C.M. (2008) Individual differences in behavioral inhibition interact with emotional state to modulate force control. Association for Psychological Science (APS). Chicago, IL.
65. Barnes, R.T., **Coombes, S.A.**, & Janelle, C.M. (2008).The Time Course of Attentional Biases to Picture Stimuli. Association for Psychological Science (APS). Chicago, IL.
66. Lodha, N., **Coombes, S.A.**, Naik, S.K., Janelle, C.M., & Cauraugh, J.H. (2008). Asymmetry in emotion and motor systems. North American Society for the Psychology of Sport and Physical Activity (NASPSPA). Niagara Falls, Ontario, Canada.
67. Higgins, T, Gamble, K, **Coombes, S.A.**, Janelle, C. J. (2008). Trait anxiety modulates the impact of emotional state on motor planning. North American Society for the Psychology of Sport and Physical Activity (NASPSPA). Niagara Falls, Ontario, Canada.
68. Gamble, K, **Coombes, S.A.**, Barnes, R. T., Janelle, C.M. (2008) Emotion and sustained force control: The impact of target force level. North American Society for the Psychology of Sport and Physical Activity (NASPSPA). Niagara Falls, Ontario, Canada.
69. Barnes, R.T., **Coombes, S.A.**, Armstrong, N.B., & Janelle, C.M. (2008). Determining the Anxiolytic Effects of an Acute Exercise Bout on High Anxious Individuals Using the Dot Probe Protocol. North American Society for the Psychology of Sport and Physical Activity (NASPSPA). Niagara Falls, Ontario, Canada.
70. **Coombes, S.A.**, Tandonnet, C., Fujiyama, H., Cauraugh, J.H., Summers, J. J. (2008). Emotion and motor processes integrate to alter motor cortex excitability and behavioral output. Neural Control of Movement, Naples, FL.

71. Cauraugh, J.H., **Coombes, S.A.**, Lodha, N., Naik S.K., Summers, J. J. (2008). Neural Evidence Favors Chronic Stroke Motor Improvements: Coupled Bimanual Protocols and Increased Resistive Mass. *Neural Control of Movement*, Naples, FL
72. **Coombes, S.A.**, Savid, R., Janelle, C.M., & Cauraugh, J.H. (2007). The impact of affective state on sustained force production post stroke. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*. San Diego, California.
73. **Coombes, S.A.**, Gamble, K.M., Savid, R. Cauraugh, J.H., & Janelle, C.M. (2007). Emotional arousal modulates pinch grip stability when visual feedback is occluded. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*. San Diego, California.
74. Cauraugh, J.H., **Coombes, S.A.**, & Summers, J. J. (2007). Stroke Motor Recovery Evidence: Bilateral Coordination Training with an Extra Load on the Unimpaired Hand. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*. San Diego, California.
75. Gamble, K.M., **Coombes, S.A.**, Savid, R., Cauraugh, J. & Janelle, C.M. (2007). Motivational direction and premotor reaction time: Understanding the impact of emotion on movement. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*. San Diego, California.
76. Savid, R., **Coombes, S.A.**, & Janelle, C.M. (2007). Effects of trait anxiety and emotional state on simple and choice reaction time. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*. San Diego, California.
77. Barnes, R., **Coombes, S.A.**, & Janelle, C.M. (2007) Natural Selective Attention and Fear of Failure. *Association for Psychological Science (APS)*. Washington D.C.
78. **Coombes, S.A.**, Cauraugh, J.H., & Janelle, C.M. (June 2006). Aversive contexts magnify a sustained muscle contraction. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*. Denver, Colorado.
79. **Coombes, S.A.**, Janelle, C.M., Cauraugh, J.H., & McManus, L.A. (June 2005). Facilitating Planned Movements: Potential Mechanisms. Outstanding Student Paper Award. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*. St. Pete's Beach, FL.
80. Mousseau, M.B. Janelle, C.M. **Coombes, S.A.**, & Mann, D.T.Y. (June 2005). Cognitive Fatigue and Hockey Decision-making: A Multimethod Exploration. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*. St. Pete's Beach, FL.
81. Caserta, R. J., Singer, R. N., & **Coombes, S.A.**, (2005). Video-based vs. field-based simulation: How to train perceptual skills in novice tennis players. Oral presentation at the International Society of Sport Psychology (ISSP) 11th World Congress of Sport Psychology, Sydney, Australia.
82. **Coombes, S.A.**, Janelle, C.M., Duley, A.R., & Barnes, R. (June 2004). Spatial and temporal motor performance characteristics following brief exposure to emotional stimuli. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*. Vancouver, BC.
83. **Coombes, S.A.**, Janelle, C.M., Duley, A.R., & Barnes, R. (June 2004). Emotion and motor control: Movement attributes following affective picture processing. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*. Vancouver, BC.
84. Barnes, R, **Coombes, S.A.**, Janelle, C.M., & Duley, A.R. (June 2004). Emotional reactivity: Mapping discrete psychophysiological responses onto movement execution. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*. Vancouver, BC.
85. Duley, A. R., Janelle, C.M., Hillman, C. H., Duffy, C., & **Coombes, S.A.**, (2004). Exercise, anxiety, and short-lead startle modification: Using prepulse inhibition to index changes in attentional bias following acute exercise. Presentation at the annual meeting of the Society for Psychophysiological Research, Santa Fe, NM.
86. Janelle, C.M., Duley, A. R., **Coombes, S.A.**, (August, 2004). Symposium: Contemporary methodologies for assessing expert performance in sport: Novel approaches to understanding emotion, attention, and motor performance. Paper presented at the annual meeting of the annual meeting of the American Psychological Association. Honolulu, Hawaii. (invited symposium)
87. Janelle, C.M., **Coombes, S.A.**, & Duley, A. R. (June, 2004). Symposium: New methodologies in the psychology of sport and physical activity: Contemporary methods for exploring emotional influences on attention and performance. Paper presented at the annual meeting of the North American Society for the Psychology of Sport and Physical Activity, Vancouver, BC, Canada. (invited symposium)
88. **Coombes, S.A.**, Janelle, C.M., Duley, A. R., & Conway, T. (June, 2003). Adults with dyslexia: theta power changes during performance of a novel motor task. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*. Savannah, GA.

89. Duley, A. R., Janelle, C.M., **Coombes, S.A.**, & Duffy, C.E. (October, 2003). Pupillary responses during affective picture processing. Society for Psychophysiological Research. Washington D.C.

TEACHING

Course Teaching

Professional Development. HLP7939. Team-teach a 3 credit graduate class in the college of health and human performance. Spring, 2024.

Motor Learning and Control. APK3200. Teach 3 credit undergraduate course to students in applied physiology and kinesiology. Fall 2012, Fall 2013, Fall 2014, Spring 2015, Fall 2015, Spring 2016, Spring 2017, Fall 2017, Spring 2018, Fall 2018 (2 sections). Spring 2019, Spring 2020, Fall 2020. Spring 2021, Fall 2021, Spring 2022, Fall 2022, Spring 2023.

LabVIEW Programming. PET5936. Teach 3 credit graduate course to students from applied physiology and kinesiology, engineering, and rehabilitation sciences. Fall 2012, Spring 2014. Spring 2019. Spring 2020.

Planning Motor Actions. APK6206. Teach 3 credit graduate course. Fall 2016.

Biomechanical Instrumentation. APK 6225. Teach 3 week module on fMRI or EEG. Graduate class. Spring 2017. Spring 2018. Spring 2019. Spring 2020. Spring 2021. Spring 2022. Spring 2023.

Nature and Basis of Motor Performance APK6205c. Teach 3 credit class in online masters program. Summer 2021, Fall, 2021, Spring 2022, Summer 2022, Fall 2022, Spring 2023, Summer 2023.

MENTORING

Post-Doctoral Mentoring

Gaurav Misra, Ph.D. 2012-2016. University of Florida
Arnab Roy, Ph.D. 2016-2018. University of Florida
Young Seon Shin, PhD. 2022 – date. University of Florida
Rachel Ho, 2022 – date. University of Florida

Doctoral Committees – Chair

Derek Archer, PhD. 2016. APK. University of Florida
Wei-en Wang, 2020. APK. University of Florida
Rachel Judy, 2022. APK. University of Florida
Jinhan Park, In progress. APK. University of Florida
Vinh Nguyen, In Progress. APK. University of Florida
Zach Baty, In Progress. BME. University of Florida

Doctoral Committees - Member

Cynthia Poon, 2012. University of Illinois at Chicago
Ryan Roemmich, 2013. University of Florida
Garrett Beatty, 2015. University of Florida
Nyeonju Kang, 2015. University of Florida
Yen-ting Chen, 2015. University of Florida
Minhyuk Kwon, 2015. University of Florida
Bradley Fawver, 2016. University of Florida
Changki Kim, 2017. University of Florida
Kyoungshin D. Park. 2018. University of Florida
Jae Chung. 2018. University of Florida

Seoung Park. 2018. University of Florida
Jesse Desimone. 2019. University of Florida
William Henderson. 2019. University of Florida
Katie Butera. 2020. University of Florida
Abigail Schmitt. 2020. University of Florida
John Roman. 2021. University of Florida
Theresa Hauge. In progress. University of Florida
Stefan Delmas. In progress. University of Florida
Kristina Bell. In progress. Dpt of Neuroscience. University of Florida
Adury Rabeya Zinnat. In progress. University of Florida

Masters Committees – Chair

Tiffany Paris. 2014. University of Florida
Spencer Field. 2016. University of Florida
Eduardo Rijos. 2019. University of Florida
Bhavin Soni (BME) Co-mentoring with Dr. Ruogu Fang (BME)

Masters Committees – Member

Ania Lauren Lipat, 2019. University of Florida
Joseph Rodriguez, 2019. University of Florida
Bradley Weitzel, 2017. University of Florida
Kristen Digioia, 2017. University of Florida

Undergraduate Mentoring

Lauren Neely (2011 – 2012)
Robert Bardin (2012 – Honors thesis)
Brandey Andersen (2014 – Honors thesis)
Shannon Marble (2013 – 2016: Undergraduate Scholars Program)
Rebecca Harris (2014 – Honors thesis)
Harrison Cady (2013 – 2014)
Eelyn Fangonilo (2015-2017: Undergraduate Scholars Program)
Erin Waterman (2016-2017: Undergraduate Scholars Program & Honors thesis)
Iana Escobar (2016)
Sammy Alfonsi (2018 – 2019)
Taylor Maderazo (2019: Honors thesis)
Morgan Klein (2018-2019)
Inbal Imat (2022)
Tyler Dentry (2022-2024)
Callie Alexiadis (2022-2024: Undergraduate Scholars Program & Honors thesis)

High School

Sreya Kolluru (summer 2012)

REVIEWER AD HOC

1. Cerebral Cortex
2. Journal of Neuroscience
3. Human Brain Mapping
4. NeuroImage
5. Pain
6. Journal of Pain
7. Brain Structure and Function
8. Neurorehabilitation & Neural Repair
9. Journal of Neurophysiology
10. Psychological Science
11. Psychophysiology
12. Cognitive, Affective, and Behavioral Neuroscience
13. Biological Psychology
14. Journal of Experimental Psychology: Applied
15. Journal of Gerontology: Psychological Sciences
16. Emotion

17. Research Quarterly for Exercise and Sport Science
18. Experimental Brain Research
19. Clinical Rehabilitation
20. Journal of Motor Behavior
21. Neuroscience Letters
22. Motor Control
23. Int. Journal of Sport and Exercise Psychology
24. Personality and Individual Differences
25. Attention, Perception, and Psychophysics
26. Medicine & Science in Sport & Exercise
27. Journal of the Royal Society: Interface
28. Journal of Personality
29. Journal of Neuroscience Methods
30. Psychological Research
31. Journal of Sport Sciences
32. PLOS one
33. Sport, Exercise, and Performance Psychology
34. Neuropsychologia
35. Applied Ergonomics
36. Frontiers in Movement Science and Sport Psychology
37. Cognition and Emotion
38. Human Movement Sciences
39. Experimental Physiology
40. Neuroscience
41. Frontiers in Human Neuroscience
42. Journal of Visualized Experiments
43. European Journal of Pain
44. Journal of Medical Internet Research
45. Brain Sciences
46. Journal of Physiology
47. Movement Disorders
48. Journal of Pain Research
49. Journal of Neurology, Neurosurgery, and Psychiatry
50. Scientific Reviews
51. Archives of Gerontology and Geriatrics

INVITED PRESENTATIONS

- 2019 Invited Speaker. Neural oscillations in human cortex during musculoskeletal pain. Auburn University, AL
- 2019 Invited Speaker. Neural oscillations in human cortex during musculoskeletal pain. Health and Exercise Science. Colorado State University, CO
- 2019 Invited talk. Neuroimaging pain and motor processes in the human brain. University of Southern California, Los Angeles, CA.
- 2018 Invited talk. Multimodal neuroimaging of pain and motor circuits. The University of Kansas, KA
- 2017 Invited talk. The motor system in acute and chronic pain. The Miami Project to Cure Paralysis. Miami, FL.
- 2017 Invited talk. The motor system in acute and chronic pain. Neural Control of Movement. Dublin, Ireland.
- 2016 Invited talk. Action Club. Department of Kinesiology, Penn State University, PA
- 2016 Invited talk. Program in Occupational Therapy. RAPS seminar. Washington University School of Medicine, MO
- 2015 Invited talk. PRICE, Brain Imaging and Musculoskeletal Pain, University of Florida
- 2015 Invited talk. Department of Kinesiology, University of Georgia, GA
- 2015 Invited talk. Department of Physical Therapy, Marquette University, WI
- 2014 Invited talk. Rehabilitation Institute of Chicago, IL
- 2014 Invited talk. Ohio Musculoskeletal and Neurological Institute (OMNI) at Ohio University, Athens, OH
- 2011 Invited talk. Department of Physical Therapy. University of Florida, Gainesville, FL
- 2010 Invited talk. Department of Human Physiology. University of Oregon, Eugene, OR
- 2010 Invited talk. Department of Applied Physiology and Kinesiology, University of Florida, Gainesville, FL
- 2010 Center for Exercise Science Spring Seminar Series. Department of Applied Physiology and Kinesiology, University of Florida, Gainesville, FL
- 2010 Human Performance Lab. Colloquium. University of Chicago. Chicago, IL
- 2010 Spring Seminar Series. College of Applied Health Sciences. University of Illinois at Chicago. Chicago, IL
- 2009 Center for Cognitive Medicine. Colloquium. University of Illinois at Chicago. Chicago, IL
- 2007 Workshop for data collection and analyses: Hardware and software solutions for EMG and force measures. Department of Applied Physiology and Kinesiology, University of Florida, Gainesville, FL
- 2006 Brain Research Imaging Center. Human Neuroscience Laboratory. University of Chicago. Chicago, IL.

SERVICE

- 2023 Graduate Coordinator. APK. University of Florida.
- 2022 HHP Research Committee Chair. Health and Human Performance, University of Florida
- 2021-2022 HHP Scholarship Committee Chair. Health and Human Performance, University of Florida
- 2017-2019 Undergraduate Curriculum Committee, Dpt Applied Physiology & Kinesiology, University of Florida
- 2016 Chair – Research Committee. Health and Human Performance, University of Florida
- 2016 Committee for fellowship applications. Dpt Applied Physiology & Kinesiology, University of Florida

2015-2018 Chair - Awards Committee. Health and Human Performance, University of Florida
 2015 D.K. Stanley Lecture Committee, Health and Human Performance, University of Florida
 2015 Marshall. May Commencement Ceremony, University of Florida
 2014 Chair and Professor Search Committee. Dpt Applied Physiology & Kinesiology, University of Florida
 2014 Awards Committee. Health and Human Performance, University of Florida
 2013 Faculty Evaluation Committee. Dpt Applied Physiology & Kinesiology, University of Florida
 2013 Awards Committee. Health and Human Performance, University of Florida
 2012 Faculty Evaluation Committee. Dpt Applied Physiology & Kinesiology, University of Florida
 2012 Awards Committee. Health and Human Performance, University of Florida
 2012 UF Student Science Training Program. Summer Session. Mentored high-school student.
 2012 Judge, HHP poster session, University of Florida
 2012 Marshall. May Commencement Ceremony, University of Florida
 2011-2012 Grade Appeals/Petitions. Dpt Applied Physiology & Kinesiology, University of Florida
 2011-2012 Awards Committee. Health and Human Performance, University of Florida
 2005-2008 Health and Human Performance Advisory Council Committee, University of Florida

PROFESSIONAL AFFILIATIONS

Society for Neuroscience

SCHOLARSHIPS/AWARDS

2024 Doctoral Dissertation Advisor/Mentoring Award. University of Florida.
 2019 Term Professorship for excellent research productivity. University of Florida.
 2017 Term Professorship for excellent research productivity. University of Florida.
 2014 Excellence Award for Assistant Professors. University of Florida.
 2006 University of Florida: HHP-APK Outstanding International Student Award
 2005 Outstanding Student Paper Award. NASPSPA
 2005 Presidential recognition for services to the University of Florida
 2004 University of Florida: HHP Outstanding International Student Award
 2004 B.K. and Betty Stevens Graduate Scholarship (HHP, University of Florida)
 2003 University of Florida: HHP-APK Outstanding International Student Award
 2003 Presidential recognition for services to the University of Florida
 2002 Norma Leavitt Fellowship (University of Florida)
 2002 Exercise and Sport Science Fellowship (HHP, University of Florida)
 2001 University of Florida: HHP-APK Outstanding International Student Award
 2001 Herman Schnell Scholarship (University of Florida)