

## EMPLOYMENT HISTORY

<b>Director, Aging Brain Cohort Study</b> , University of South Carolina	August 2019-Present
<b>Research Associate</b> , Department of Psychology, University of South Carolina	August 2017 – July 2019
<b>Assistant Professor</b> , Department of Exercise Science, University of South Carolina	July 2009 - August 2017
<b>Postdoctoral Researcher</b> , Donders Institute for Brain, Behavior and Cognition Radboud University Nijmegen	January 2005 - May 2009

## EDUCATION

<b>Ph.D., Cognitive Neuroscience</b> , Dartmouth College	2004
Doctoral Thesis: Brain Correlates of Second Language Acquisition in Adult Learners	
Advisor, Thesis Chair: Scott T. Grafton., M.D.	
Committee Members: Scott H. Johnson-Frey, Ph.D. Laura-Ann Petitto, Ph.D. Donna Coch, Ph.D.	
<b>B.A. Psychology</b> , State University of New York at Geneseo	1997-1999
Coursework towards bachelor's degree, Johns Hopkins University	1995-1997

## EDUCATIONAL COURSES ATTENDED

- SPM Advanced Course Zurich, Switzerland 2009
- Advanced course in fMRI. Human Brain Mapping, Florence, Italy 2006
- Summer Institute of Cognitive Neuroscience, Dartmouth College 2000-2003

## EDUCATIONAL/PROFESSIONAL MEMBERSHIPS AND AWARDS

- Human Brain Mapping (2002-2003, 2004, 2006, 2008)
- Cognitive Neuroscience Society (2003, 2005, 2006, 2009, 2015)
- New York Academy of Sciences (2003-2005)
- Cognitive Neuroscience Society, Graduate Student Travel Award (2004)
- USC Research Consortium for Children and Families (2012-Present)
- Nominated for James A. Keith Excellence in Teaching Award (2014)

## ACADEMIC CONTRIBUTIONS

### PEER-REVIEWED PUBLICATIONS (\* = student author)

1. \*Kristinsson, S., Zhang, W., Rorden, C., **Newman-Norlund, R.**, Basilakos, A., Bonilha, L., Yourganov, G., Xiao, F., Hillis, A., Fridriksson, J. Machine learning-based multimodal prediction of language outcomes in chronic aphasia. *NeuroImage (in press)*.
2. Wilde, E.A., Goodrich-Hunsaker, N.J., Ware, A.L., Taylor, B.A., Biekman, B.D., Hunter, J.V., **Newman-Norlund, R.D.**, Scareo, S.E., Casa, D.J. & Levin, H.S. DTI indicators of white matter injury are correlated with multimodal EEG-based biomarker in slow recovering, concussed collegiate athletes. *Journal of Neurotrauma*, 37, 19. <https://doi.org/10.1089/neu.2018.6365>
3. **Newman-Norlund, R.D.**, Rorden, C., Maleki, N. *et al.* Cortical and subcortical changes following sphenopalatine ganglion blocks in chronic migraine with medication overuse headache: a preliminary longitudinal study. *womens midlife health* 6, 7 (2020). <https://doi.org/10.1186/s40695-020-00055-y>
4. **Newman-Norlund, R. D.**, \*Gibson, M., \*McConnell, P. A., & Froeliger, B. (2020). Dissociable Effects of Theta-Burst Repeated Transcranial Magnetic Stimulation to the Inferior Frontal Gyrus on Inhibitory Control in Nicotine Addiction. *Frontiers in psychiatry*, 11, 260. <https://doi.org/10.3389/fpsy.2020.00260>
5. Wilde, E.A., Goodrich-Hunsaker, N.J., **Newman-Norlund, R.D.**, Ware, A.L., *et al.* Diffusion Tensor Imaging Indicators of White Matter Injury Are Correlated with a Multimodal Electroencephalography-Based Biomarker in

- Slow Recovering, Concussed Collegiate Athletes [published online ahead of print, 2020 Jun 9]. *J Neurotrauma*. 2020;10.1089/neu.2018.6365. doi:10.1089/neu.2018.6365
6. \*McConnell, P.A. Garland, E.L., Zubieta, J-K., **Newman-Norlund, R.D.**, Powers, S., Froeliger, B. (2019). Impaired frontostriatal functional connectivity among chronic opioid using pain patients is associated with dysregulated affect. *Addiction Biology*, doi: <https://doi/10.1111/abd.12743>.
  7. \*Hanayik, T., Grigori, Y., **Newman-Norlund, R.D.**, \*Gibson, M., & Rorden, C. (2019). Visual simultaneity judgments activate a bilateral frontoparietal timing system. *Journal of Cognitive Neuroscience*, 31 (3), 431-441.
  8. Fridriksson, J.F., Rorden, C., **Newman-Norlund, R.D.**, Froeliger, B., & Thrasher, J.F. (2018). Smokers' neurological responses to novel and repeated health warning laels (HWLs) from cigarette packages. *Frontiers in Psychiatry*, 9, doi: <https://10.3389/fpsy.2018.00319>.
  9. Androulakis, X.M., \*Krebs, K.A., Finkel, A.G., Rorden, C., **Newman-Norlund, R.D.**, Jenkins, C., Maleki, N. (2018). Central executive and default mode network intra-netowrk functional connectivity patterns in chronic migraine. *Journal of Neurological Disorders*, 6, doi: <https://doi/10.4127/2329-6895.1000393>.
  10. \*Seiler, B.D., **Newman-Norlund, R.D.**, Monsma, E. (2017). Inter-individual neural differences in movement imagery abilities. *Psychology of Sport and Exercise*, 30, 153-163.
  11. Herath, Priyantha, Carmichael, M., Murphy, A., Bonilha, L., **Newman-Norlund, R.D.**, Rorden, C., \*Davis, M. (2017). Cortical substrate of supraspinal fatigue following exhaustive aerobic exercise localizes to a large cluster in the anterior premotor cortex. *Frontiers in Neurology*, 8: 483.
  12. \*Riddle, P., **Newman-Norlund, R.D.**, Thrasher, J.F. (2016). Neural response to pictorial health warning labels can predict smoking behavior change. *Social Cognitive and Affective Neuroscience*, 11, 1802-1811.
  13. \*Seiler, B.S., Monsma, E., **Newman-Norlund, R.D.** (2015). Biological evidence of imagery abilities: Intra-individual differences. *Journal of Sport & Exercise Psychology*, 37, 421-435.
  14. \*Butts, R., **Newman-Norlund, R.D.**, Kolar, M. (2014). Enhanced motor skill acquisition in the non-dominant upper extremity using Intermittent theta burst stimulation and anodal transcranial direct current stimulation. *Frontiers in Human Neuroscience*, doi: 10.3389/fnhum.2014.00451.
  15. **Newman-Norlund, R.D.**, Thrasher, J.F., \*Fridriksson, J., \*Brixius, W., Froeliger, B., Hammond, D., Cummings, M. (2014) Neural biomarkers for assessing the effects of different types of imagery in pictorial health warning labels for cigarette packaging: A cross-sectional study. *BMJ Open*, doi:10.1136/bmjopen-2014-006411.
  16. \*Middleton, A., Fritz, S, \*Liuzzo, D.M., **Newman-Norlund, R.D.**, Herter, T. (2014). Using clinical and robotic assessment tools to examine the feasibility of apiring tDCS with upper extremity physical therapy in patients with stroke and TBI: A consideration-of-concept study. *NeuroRehabilitaiton*, 35, 741-754.
  17. \*Howie, E., **Newman-Norlund, R.D.**, Pate, R.R. (2014). Smiles count but minutes matter: Teacher and student responses to classroom exercise breaks. *American Journal of Health Behavior*, 35, 681-689.
  18. \*Crowley, S., Youngstedt, S., Sui, M. Reynolds, A., Beets, M., Wooten, N., Durstine, L., **Newman-Norlund, R.D.** (2014). Physical fitness and depressive symptoms during Army basic Combat training. *Medicine & Science in Sports & Exercise*, 47, 151-158.
  19. **Newman-Norlund, R.D.**, \*Burch, J., \*Becofsky, K. (2013). Human mirror neuron system specific differences in resting-state functional connectivity in Democrats and Republicans: A pilot study. *Journal of Behavioral and Brain Science*, 3, 4, 341-350.
  20. **Newman-Norlund, R.D.** (2014). Functional Correlates of Increasing Gestural Articulatory Fluency Using a Miniature Second-Language Approach. *Folia Phoniatica et Logopaedica*, 65, 193-199.
  21. \*Ondobaka, S., **Newman-Norlund, R.D.**, de Lange, F.P. & Bekkering, H. (in press). Action recognition depends on observer's level of action control and social personality traits. *PLOS One*.
  22. **Newman-Norlund, R.D.**, \*Bruggink, K., Cuijpers, R. & Bekkering, H. (in press) What are the chances? fMRI correlates of observing high and low-probability actions. *Journal of Behavioral and Brain Sciences*.
  23. Ondobaka, S., de Lange, F., **Newman-Norlund, R.**, & Bekkering, H. (2012). Interplay between action movement intentions during social interaction. *Psychological Science*, 23, 30-35.
  24. Zentgraf, K., Munzert, J., \*Bischoff, M., **Newman-Norlund, R.D.** (2011). Simulation during observation of human actions – theories, empirical studies, applications. *Vision Research*, 51, 827-835.
  25. Stoit, A., van Schie, H., \*Riem, M., Meulenbroek, R.G. J., **Newman-Norlund, R.D.** & Buitelaar, J.K. (2011). Self-other representation and differentiation in children with autism spectrum disorder. *Research in Autism Spectrum Disorders*, 5, 1526-1537.
  26. **Newman-Norlund, R.D.**, van Schie, H., \*van Hoek, M.E., Cuijpers, R., van Elk, M. & Bekkering, H. (2010). The role of inferior frontal and parietal areas in differentiating meaningful and meaningless object-directed actions. *Brain Research*, 1315, 63-74.
  27. **Newman-Norlund, R.D.**, \*Ondobaka, S., van Schie, H.T., van Elswijk, G. & Bekkering, H. (2010). Virtual lesions of the dorsal pars opercularis abolish response facilitation for biological and non-biological cues. *Frontiers in Behavioral Neuroscience*, 4:5.

28. De Ruiter, J.P., Noordzij, M.L., Newman-Norlund, S., **Newman-Norlund, R. D.**, Hagoort, P., Levinson, S.C. & Toni, I. (2010). Exploring the cognitive infrastructure of communication. *Interaction Studies: Social Behavioral and Communication in Biological and Artificial Systems*, 11, 1, 51-77.
29. Newman-Norlund, S.E., Noordzij, M., **Newman-Norlund, R.D.**, Volman, I., Hagoort, P., & Toni, I. (2009). Recipient design in tacit communication. *Cognition*, 111, 46-54. Curriculum Vitae, Roger D. Newman-Norlund, Ph.D.
30. Bekkering, H., Cuijpers, R., de Bruijn, E., **Newman-Norlund, R.D.**, van Schie, H.T. & Meulenbroek, R. (2009). Neurocognitive mechanisms supporting human interactions. *Topics in Cognitive Science*, 1, 340-352.
31. **Newman-Norlund, R.D.**, Ganesh, S., van Schie, H., de Bruijn, E. & Bekkering, H. (2009). Empathic modulation of error related brain activity during the observation of penalty shots between friend and foe. *Social Cognitive and Affective Neuroscience*, 4, 10-22.
32. **Newman-Norlund, R.D.**, Meulenbroek, R.G.J., & Bekkering, H. (2008). Anatomical substrates of cooperative joint action in a continuous motor task: Virtual bar lifting and balancing. *NeuroImage*, 41, 169-177.
33. **Newman-Norlund, R.D.**, van Schie, H. T., van Zuijlen, A. M. J., & Bekkering, H. (2007). The human mirror neuron system more active during complementary compared with imitative action. *Nature Neuroscience*, 10, 817-818.
34. **Newman-Norlund, R.D.**, Noordzij, M. L., Meulenbroek, R.G. J., & Bekkering, H. (2007). Exploring the brain basis of joint action: Coordination of actions, goals and intentions. *Social Neuroscience*, 2, 48-65.
35. **Newman-Norlund, R.D.**, Johnson-Frey, S.H., & Grafton, S.T. (2006). Anatomical substrates of visual and auditory miniature second-language learning. *Journal of Cognitive Neuroscience*, 18, 1984-1997.
36. Johnson-Frey, S.H., **Newman-Norlund, R.D.**, & Grafton, S.T. (2005). A distributed network in the left cerebral hemisphere for planning everyday tool use skills. *Cerebral Cortex*, 15, 681-695.
37. Johnson-Frey, S.H., Maloof, F.R, **Newman-Norlund, R.D.**, Farrer, C., Inati, S. & Grafton, S.T. (2003). Actions or hand-object interactions? Human inferior frontal cortex and action observation. *Neuron*, 39, 1053-1058.
38. Johnson-Frey, S.H., Vinton, D., **Newman-Norlund, R.D.**, & Grafton, S.T. (2005). Cortical topography of human anterior intraparietal cortex active during visually-guided grasping. *Cognitive Brain Research*, 23, 397-405.

#### MANUSCRIPTS UNDER SUBMISSION

1. Johnson, L., Yourganov, G., Basilakos, A., **Newman-Norlund, R.D.**, Thors, H., \*Keator, L., Rorden, C., Fridriksson, J. (2020). Speech entrainment improves synchrony between anterior and posterior cortical speech areas in non-fluent aphasia. (*Neurorehabilitation and Neural Repair*).
2. **Newman-Norlund, R.D.**, Newman-Norlund, S., Sayers, S., Mclain, A., \*Riccardi, N., Fridriksson, J. (2020) The Aging Brain Cohort (ABC) repository: The University of South Carolina's multimodal lifespan database for studying the relationship between the brain, cognition, genetics and behavior in healthy aging. (*Neuroimage Reports*).
3. **Newman-Norlund, R.D.**, Newman-Norlund, S., Sayers, S., Mclain, A., \*Riccardi, N., Fridriksson, J. (2020) Effects of COVID-19 related social isolation on quality of life in elderly adults (*Age and Ageing*).

#### MANUSCRIPTS IN PREPARATION

4. \*Butts, R., \*Steen, C., \*Mettile, J., **Newman-Norlund, R.D.** Age-based differences in the effects of a combined TMS/tDCS approach to the facilitation of motor skill acquisition in the non-dominant upper extremity.
5. **Newman-Norlund, R.D.**, \*Seiler, B.S., Monsma, E. Resting-state functional connectivity differences in good and poor imagers.

#### CONFERENCE ABSTRACTS

1. Johnson, L., Yourganov, G., Basilakos, A., Stark, B.C., Newman-Norlund, R.D., Rorden, C., Fridriksson, J. Neural synchronization during language processing in listeners with aphasia. SNL, 2019.
2. **Newman-Norlund, R.D.**, \*Seiler, B., Sacko, R., \*Gibson, M., \*Weber, S. & Monsma, E.V. Neuroactivity during imagery of the same movement delineates kinesthetic and visual movement imagery abilities as screened by questionnaires. North American Society for the Psychology of Sport and Physical Activity, June 2018, Denver, Colorado.
3. \*Seiler, B., **Newman-Norlund, R.D.**, Sacko, R., \*Gibson, M., \*Weber, S. & Monsma, E.V. (2018). Do you see what I see? Neuroactivity breadth and depth differentiate good movement imagers from those self-reporting lower abilities. *Journal of Sport and Exercise Psychology*,

4. Wilde, E., Harvey, L., Douglas, C., Hunter, J., **Newman-Norlund, R.D.**, Scarneo, S. EEG correlates with DTI measures of white matter injury in subacute sports concussion. North American Society for the Psychology of Sport and Physical Activity, June 2018, Denver, Colorado.
5. \*Kolar, M.B., **Newman-Norlund, R.D.** Enhancing dancing: Examining the potency of action observation. NASPSPA, June 2018, Denver, Colorado.
6. Monsma, E.V., Seiler, B.A., **Newman-Norlund, R.D.**, Hall, C.R. Redefining the Movement Imagery Questionnaire for rehabilitation settings (MIQ-RS). North American Society for the Psychology of Sport and Physical Activity, June 2016, Portland Oregon.
7. \*Gullion, L., **Newman-Norlund, R.D.** Understanding Teamwork. USC Discovery Day, 2016, Columbia, SC.
8. \*Parcel, H., **Newman-Norlund, R.D.** Autism Application, USC Discovery Day, 2016, Columbia, SC.
9. \*Seiler, B.D., Monsma, E.V., **Newman-Norlund, R.D.** Biological evidence for inter-individual differences in movement imagery abilities, North American Society for the Psychology of Sport and Physical Activity, June 2015, Portland Oregon.
10. \*Seiler, B.D., Monsma, E.V., **Newman-Norlund, R.D.** Biological evidence of imagery abilities: Intra-individual differences. North American Society for the Psychology of Sport and Physical Activity, June 2015, Portland Oregon.
11. \*Newell, B., \*Gullion, L., **Newman-Norlund, R.D.** Cooperation station: The correlation between performance on real-life and virtual teamwork tasks. USC Discovery Day, 2015, Columbia, SC.
12. \*Gullion, L., **Newman-Norlund, R.D.** Computer simulated joint action tasks compared to live joint action tasks. USC Discovery Day, 2015, Columbia, SC.
13. \*Kolar, M.B., **Newman-Norlund, R.D.** Enhancing dancing: Examining the potency of a combined action observation and brain stimulation intervention. Graduate Student Day, Columbia, SC, April 2015.
14. \*Baer, J., Kolar, M., Harrison, A., & **Newman-Norlund, R.D.** The effect of aerobic exercise coupled with transcranial direct current stimulation on motor learning. Poster presented at Neural Control of Movement, Medical University of South Carolina, 2015, Charleston, SC.
15. \*Kolar, M.B., Baer, J.F., **Newman-Norlund, R.D.** Age-Based Differences in the Effects of a Combined iTBS / Bihemispheric Anodal tDCS Approach To The Facilitation of Motor Skill Acquisition in the Non-Dominant Upper Extremity. Poster presented at Neural Control of Movement, Medical University of South Carolina, 2015, Charleston, SC.
16. \*Riddle, P.J., **Newman-Norlund, R.D.**, Thrasher, J.T. Neural response to health warning labels can predict change in smoking behavior. USC Discovery Day, 2014, Columbia, SC.
17. \*O'Donnell, P., \*Baer, J., \*Kolar, M., \*Irvin, Z., **Newman-Norlund, R.D.** The effect of anodal transcranial direct current stimulation of S1 on motor learning and sensation. ACSM, 2014, Orlando, FL.
18. \*O'Donnell, P., \*Baer, J., \*Kolar, M., \*Irvin, Z., **Newman-Norlund, R.D.** The effect of anodal transcranial direct current stimulation of S1 on motor learning and sensation. SCAPTA, 2014, Charleston, SC.
19. \*Gullion, L., **Newman-Norlund, R.D.** Joint Action Mini Camps: Where the science of teamwork comes alive. USC Discovery Day, 2014, Columbia, SC.
20. \*Becofsky, K., **Newman-Norlund, R.D.**, Xuewen, W., Wilcox, S. Cognitive reserve and fitness in healthy older women. USC Graduate student Day, 2014, Columbia, SC.
21. \*Becofsky, K., **Newman-Norlund, R.D.**, Xuewen, W., Wilcox, S. Cognitive reserve and fitness in healthy older women. ACSM, 2014, Orlando, FL.
22. \*Kolar, B., **Newman-Norlund, R.D.** Enhancing the Potency of Action Observation Therapy using Non-invasive Brain Stimulation. ACSM, 2014, Orlando, FL.
23. \*Middleton, J.A., Liuzzo, D., **Newman-Norlund, R.D.**, Fritz, S.L., Herter, T.M. Using clinical and robotic assessment tools to examine the feasibility of pairing tDCS with standard physical therapy in patients with stroke and TBI. Society for Neuroscience, San Diego, CA, 2013.
24. \*Kolar, M.B., **Newman-Norlund, R.D.** The relationship between electronic navigation device use and map memory in young adults. Graduate Student Day, Columbia, SC, April 2013.
25. \*Kolar, J., **Newman-Norlund, R.D.** Resting-state brain connectivity differences in high and low empathy individuals. Southeast Neuroscience Conference, March, 2013.
26. \*Baer, J., **Newman-Norlund, R.D.** Resting-state brain connectivity differences in high and low happiness individuals. Southeast Neuroscience Conference, March, 2013.
27. \*Baer, J., **Newman-Norlund, R.D.** Exploring the relationship between technology and social-psychological variables in healthy young adults. Graduate Student Day, Columbia, SC, April 2013.
28. \*Butts, R., **Newman-Norlund, R.D.** Age-based differences in the effects of a combined TMS/tDCS approach to the facilitation of motor skill acquisition in the non-dominant upper extremity. Aging Research Day, Charleston, SC.

29. \*Becofsky, K., Ullmann, G., **Newman-Norlund, R.** & Williams, H. An fMRI investigation of the relationship between physical activity and executive function in older adults, Annual meeting of the American College of Sports Medicine, San Francisco, CA, May, 2012.
30. \*Burch, J.L., \*Becofsky, K., **Newman-Norlund, R.D.** Connectivity in the human mirror neuron system of republicans and democrats. SYNAPSE, University of South Carolina School of Medicine, March, 2012.
31. \*Burch, J.L., \*Becofsky, K., **Newman-Norlund, R.D.** Connectivity in the human mirror neuron system of republicans and democrats. University of South Carolina Discovery Day, April, 2012.
32. \*Kemmy, K., **Newman-Norlund, R.D.** Impact of brain stimulation and music on psychomotor vigilance. University of South Carolina Discovery Day, April, 2012.
33. \*Young, E, K., **Newman-Norlund, R.D.** Studying brain areas involved in purchasing decisions. University of South Carolina Discovery Day, April, 2012.
34. \*Crowley, S.K., **Newman-Norlund, R.D.**, Youngstedt, S.D. Effect of Bright Light Therapy on Mesocorticolimbic and Thalamocingulate Activity in Postpartum Depression: fMRI pilot study Women's Health Research Forum, 2011. University of South Carolina, Columbia, SC
35. \*Crowley, S.K., **Newman-Norlund, R.D.**, Youngstedt, S.D. Effect of Bright Light Therapy on Mesocorticolimbic and Thalamocingulate Activity in Postpartum Depression. Society for Light Treatment and Biological Rhythms 2011 Annual Conference
36. \*Crowley, S.K., **Newman-Norlund, R.D.**, Youngstedt, S.D. Effect of Bright Light Therapy on Mesocorticolimbic and Thalamocingulate Activity in Postpartum Depression: fMRI case study Women's Health Research Forum, 2010. University of South Carolina, Columbia, SC
37. \*Bruggink, K., **Newman-Norlund, R.D.**, Cuijpers, R. & Bekkering, H. (May, 2009). The relationship between the mirror neuron system and action likelihood. Cognitive Neuroscience Society, San Francisco, USA.
38. **Newman-Norlund, R. D.**, Ganesh, S., van Schie, H., de Bruijn, E., & Bekkering, H. ( June, 2008). How self-identification modulates error-related and reward-related ACC activity. Human Brain Mapping, Sydney Australia.
39. \*Bruggink, K., **Newman-Norlund, R.D.**, Cuijpers, R. & Bekkering, H. (May, 2008). The relationship between the mirror neuron system and action likelihood. Cognitive Neuroscience Conference Nijmegen, Nijmegen, Netherlands.
40. \*Van Hoek, M.E.C., **Newman-Norlund, R.D.**, Cuijpers, R. & Bekkering, H. (May, 2008). Goal versus effector based action recognition in the human mirror neuron system. Cognitive Neuroscience Conference Nijmegen, Nijmegen, Netherlands.
41. \*Ondobaka, S., **Newman-Norlund, R.D.**, Overeem, S., van Elswijk, Gijs, van Schie, H.T., Steegeman, D. & Bekkering, H. (May, 2008). Role of the inferior frontal gyrus in complementary action: A TMS study. Transcranial Magnetic Stimulation in Plasticity and Rehabilitation Summer School, London, England.
42. **Newman Norlund R. D.**, \*Ondobaka S., Overeem S., van Elswijk G., Steegeman D., & Bekkering H. (October, 2007). "Role of inferior frontal gyrus (IFG) in complementary actions". 4<sup>th</sup> NWO Social Cognition Autumn School, Learning and Cognition, Doorwerth, Netherlands.
43. \*Bousardt, R. & **Newman-Norlund, R. D.** (June, 2007). Effect of goal knowledge manipulation on performance in a cooperative spatial navigation task. Tuebingen Workshop (TWK), Tuebingen, Germany.
44. **Newman-Norlund, R. D.**, \*Ganesh, S., van Schie, H., de Bruijn, E., & Bekkering, H. ( October, 2007). How self-identification modulates error-related and reward-related ACC activity. 4<sup>th</sup> NWO Social Cognition Autumn School, Learning and Cognition, Doorwerth, Netherlands.
45. **Newman-Norlund, R. D.**, Meulenbroek, G.J. & Bekkering, H. (June, 2006). Neural correlates of joint action in a cooperative bar-balancing paradigm. Organization of Human Brain Mapping, New York, NY, USA.
46. **Newman-Norlund, R. D.**, Petitto, L-A., Johnson-Frey, S.H., & Grafton, S.T. (2004, March). ERP response to ungrammaticality in well-learned spoken or gestural artificial languages. Talk presented at the 11th Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA
47. **Newman-Norlund, R. D.**, Johnson, S. H., & Grafton, S.T. (2002). Functional correlates of gestural language acquisition in hearing adults. Organization of Human Brain Mapping, Sendai, Japan.
48. Johnson-Frey, S. H., Vinton, D., **Newman-Norlund, R. D.**, & Grafton, S. T. (2003). Cortical topography of human anterior intraparietal cortex in grasping. Neural Control of Movement, Santa Barbara.
49. Johnson, S. G., Maloof, F.R., **Newman-Norlund, R. D.**, Farrer, C., & Grafton, S.T. (2003). Context-dependent coding of hand-object interactions in human ventral premotor cortex. Cognitive Neuroscience Society, New York City.
50. Bischoff-Grethe, A., **Newman-Norlund, R. D.**, & Grafton, S.T. (2002). Functional substrates of emerging awareness of sequence structure: An fMRI study. Cognitive Neuroscience Society, Los Angeles.
51. Johnson, S.H., **Newman-Norlund, R. D.**, & Grafton, S.T. (2002). Beyond the dorsal stream: A distributed system for the representation of skilled action. Cognitive Neuroscience Society, Los Angeles.

52. Johnson, S. H., Grafton, S.T., & **Newman-Norlund, R. D.** (2001). Involvement of SMA and CMA during intra- and inter-effector coordination of reach and grasp. *Organization of Human Brain Mapping*, Brighton, England.

## INVITED PRESENTATIONS

1. **NYSSTATE Technology and Special Education Conference Keynote Speaker**, "At the crossroads of technology and special education: A role for serious games in serious education", New York, October 24, 2015.
2. **CBS This Morning with Host Charlie Rose**, "The emerging field of neuro-politics", February 20, 2013.
3. **Sirius XM Interview**, "Recent developments in the field of neuropolitics", November, 2012.
4. **School of Health Conversation Series**. November 16, 2012. "Mind-Body Interactions: A Role for Brain Sciences in Public Health", University of Missouri, Columbia, MO, USA.
5. **Neuroscience Institute and Neuroscience Graduate Program Seminar Series**. October 18, 2011. "Towards a science of teamwork: Insights from fMRI studies of joint action." Loyola University, Maywood, IL, USA.
6. **USC Seminar Series**. November 6, 2010. "Towards a Science of Teamwork: Insights from behavioral and fMRI experiments in joint action". University of South Carolina, Columbia, SC.
7. **MUSC Seminar Series**, November 30, 2009. "Towards a science of teamwork: Joint-Action and the Mirror Neuron System." Columbia, SC, USA.
8. **University of Giessen**, April 26-29, 2009. "Joint action and the mirror neuron system", University of Giessen, Germany.
9. **Federation of European Neuropsychology Societies**, September 2-5, 2008. "The role of right inferior frontal gyrus in social interactions". Edinburgh, Scotland.
10. **International Congress of Psychology**, June 20-25, 2008. "Joint-action and the human brain.", in symposium *Joint Action*. Berlin, Germany.
11. **7<sup>th</sup> Dutch Endo-Neuro-Psycho Meeting**, June 6, 2008. "New insights into neural simulation: Yin, yang and the neural basis of complementary action." Doorwerth, Netherlands.
12. **Joint Action, Infant and Semantics Lab Exchange**, November, 2007. "Joint action science and technology (JAST): Behavioral and neuroimaging experiments on complementary action." Max Plank Institute, Leipzig, Germany.
13. **Joint Action Meeting (JAM II)**, April 5-7, 2007, "The role of the mirror neuron system in joint action." Rutgers, Newark Campus, New Jersey, USA.
14. **FC Donders Proudly Presents Day**, June 21, 2006. "Mirror neuron activity during a continuous cooperative bar lifting task." Nijmegen, Netherlands.
15. **Dartmouth Colloquia**, June 14, 2004, "Second Language Acquisition: fMRI and ERP correlates of vocabulary and syntax acquisition", Hanover, New Hampshire, USA.
16. **Graduate Students Forum**, 11th Annual Meeting of the Cognitive Neuroscience Society, San Francisco, USA. April 12, 2004. "ERP responses to grammatical violations in well-learned spoken or gestural artificial languages." San Francisco, California, USA.

## TEACHING EXPERIENCE

### LEAD INSTRUCTOR EXPERIENCE

- EXSC 731-Mechanisms of Motor Skill Performance I, University of South Carolina 2010-2016
- EXSC 831-Mechanisms of Motor Skill Performance II, University of South Carolina 2013-2016
- PHYT 808-Neural Repair and Rehabilitation, University of South Carolina 2010-2016
- EXSC 342A-Practicum in Lifespan Motor Development Practicum 2013-2016
- EXSC 342B- Practicum in Lifespan Motor Development Practicum 2013-2016
- EXSC 482-Internship in Lifespan Motor Development 2013-2015
- The Brain Reigns Supreme, Governor's School for Science and Mathematics Summer 2012-2015
- Intro to Computer Programming, Governor's School for Science and Mathematics Summer 2013-Present
- Video Game Development using Unity3D, Governor's School for Sci. and Math Summer 2013-Present
- EXSC 771-Presentation Programming for Data Collection, University of South Carolina 2011

### CO-INSTRUCTOR EXPERIENCE

- PSYC 589/888 Image to Inference 2018-Present
- PSYC 450 Sensation and Perception 2016-Present
- EXSC 351 Acquisition of Motor Skills, University of South Carolina 2012

- EXSC 351 Perceptual Motor Development, University of South Carolina 2012
- Social Cognitive Neuroscience, Radboud University Nijmegen 2008-2009

**PROFESSIONAL LEVEL GUEST LECTURES**

- “Approaches to Brain Stimulation”, From Image to Inference, University of South Carolina 2011-2015
- “Motor Theory of Speech Perception”, Human Motor System, Radboud University Nijmegen 2006-2008
- “Motor Learning”, Intention, Action and Motor Control, Radboud University Nijmegen 2006-2007
- “Dynamical Systems Theory: Language Acquisition”, Radboud University Nijmegen 2006
- “The Basal Ganglia and Movement Control”, Dartmouth College 2003
- “Bipolar Disorder and Depression”, Abnormal Psychology, Dartmouth College 2000

**RESEARCH MENTORING EXPERIENCE**

**DOCTORAL LEVEL STUDENT MENTOR OR CO-MENTORSHIP**

- |   |              |
|---|--------------|
| Melissa Kolar, Ph.D. student, University of South Carolina            | 2012-Present |
| Courtney Cauthen, DPT Student, University of South Carolina           | 2015-2016    |
| Katie Rush, DPT Student, University of South Carolina                 | 2015-2016    |
| Peter O’Donnell, DPT Student, University of South Carolina            | 2014-2015    |
| C’iana Barker, Ph.D. student, University of South Carolina            | 2014-2015    |
| Jessica Baer, Ph.D. student, University of South Carolina             | 2012-2015    |
| Brian Seiler, Ph.D. student, University of South Carolina (co-mentor) | 2011-2014    |
| Katie Becofsky, Ph.D. student, University of South Carolina           | 2011-2014    |
| Raymond Butts, Ph.D. student, University of South Carolina            | 2010-2013    |
| Sasha Ondobaka, Ph.D. student, Radboud University Nijmegen            | 2009-2014    |

**MASTER LEVEL STUDENT MENTORSHIP**

- |   |           |
|---|-----------|
| Danny Saucedo, M.S. Student, University of South Carolina       | 2013-2015 |
| Gillian Harper, M.S. Student, University of South Carolina      | 2013-2014 |
| Adam Harrison, M.S. Student, University of South Carolina       | 2013-2014 |
| Jessica Baer, M.S. Student, University of South Carolina        | 2012      |
| Melissa Kolar, M.S. Student, University of South Carolina       | 2012      |
| Anna Gelbrich, M.S. student, University of South Carolina       | 2011      |
| Scott M. Blanchette, M.S. student, University of South Carolina | 2011      |
| Billy Ray, M.S. student, University of South Carolina           | 2011      |
| Kim Bruggink, M.S. student, Radboud University Nijmegen         | 2009      |
| Shanti Ganesh, M.S. student, Radboud University Nijmegen        | 2009      |
| Roel Bousardt, M.S. student, Radboud University Nijmegen        | 2008      |
| Marline van Hoek, M.S. student, Radboud University Nijmegen     | 2008      |

**UNDERGRADUATE LEVEL STUDENT MENTORSHIP**

- |  |           |
|--|-----------|
| Alexander Fennell, Undergraduate Student, University of South Carolina   | 2016-2017 |
| Richa Ruwala, Undergraduate Student, University of South Carolina        | 2015-2017 |
| Rachel Rizzo, Undergraduate Student, University of South Carolina        | 2015-2017 |
| Brittany Pope, Undergraduate Student, University of South Carolina       | 2015-2016 |
| Dustin Mullins, Undergraduate Student, University of South Carolina      | 2014-2015 |
| Walter Brandsema, Undergraduate Student, University of South Carolina    | 2014-2015 |
| Lily Gullion, Undergraduate Student, University of South Carolina        | 2013-2015 |
| Paul Han, Undergraduate Student, University of South Carolina            | 2014-2015 |
| Kayleigh Kemmy, Undergraduate Student, University of South Carolina      | 2011      |
| Jessica Burch, Undergraduate Student, University of South Carolina       | 2011      |
| Emily Young, Honors College Senior Project, University of South Carolina | 2010      |
| Haley Smith, Honors College Senior Project, University of South Carolina | 2010      |
| Women in Science Project (WISP) Mentor, Dartmouth College                | 2002-2003 |

## GRANT WRITING EXPERIENCE

### GRANT APPLICATIONS (FUNDED)

- BrainScope Company Inc., Objective brain function assessment of mTBI from initial injury to rehabilitation and treatment optimization, 1-year, \$67,593, Co-PI (10%). 2016
- USC Social Sciences Grants Program, Brain activity during movement imagery in college-age males with high and low movement imagery ability, 1 year, \$19,882, PI (7.5%). 2015
- USC College of Education Research Grants Program B, Extending the movement imagery Questionnaire for rehabilitation: Biological and psychometric evidence among healthy males, Co-Investigator, 1 year, \$12,000. 2015
- BrainScope Company Inc., Objective brain function assessment of mTBI from initial injury to rehabilitation and treatment optimization, 1-year, \$47,360, Co-PI (7%). 2015
- USC Visiting Scholars Grant Program, Advancing evidence-based care for recurrent low back pain Through expanding the scope of doctoral training and establishing a unique scholarly network. Co-Investigator, 1 year, \$14,816. 2014
- NCI, International Tobacco Control (ITC) Consortium, Tobacco packaging and labeling policies: Expanding the evidence on novel policies, \$75,110, Co-Investigator, 7%. 2013-2014
- ASPIRE-I Research Project Grant, Creation of a Web-Based Research Tool for Studying Social-Motor Impairments in Children with Autism Spectrum Disorder. PI (\$14,600). 2013
- ASPIRE-III Infrastructure Grant, MRI Simulator Shared Laboratory, Co-Investigator, \$35,000 infrastructure funds. 2012
- Injury & Traumatic Stress (INTRuST) Consortium, Improving walking and balance in veterans with traumatic brain injury: A pilot study examining feasibility and dosage, Co-Investigator (15%), 2 years, \$225,000. 2011-2012
- Injury & Traumatic Stress (INTRuST), Exercise: A novel treatment for combat PTSD, Co-Investigator (12.5%), 2 years, \$225,000. 2011-2013
- Radboud University Internal Ph.D. Grant, Brain basis of complementary action using fMRI, Primary Supervisor, 4 years, \$80,000. 2009-2012

### GRANT APPLICATIONS (UNFUNDED)

- National Cancer Institute DCCPS Supplemental Funding Opportunity for Health Disparities, Examining the neural basis of acquiescence in healthy adult non-white Latinos, Co-Investigator, 15%, 1 year. 2016
- National Institutes of Health (NICHD), Correlation between behavioral and computer-based measures of social skills in children with autism, Principle Investigator (30%), 2 years, \$211,377. 2015
- National Institutes of Health (NIH-NCMRR), Behavioral and neural effects of theta-burst TMS enhanced upper extremity motor training after stroke, Principle Investigator (40%), 2 years, \$209,957. 2015
- Autism Speaks Community Grant, Community and technology based teamwork camps Principle Investigator, 1 year, \$14,069. 2015
- McKnight Endowment Fund for Neuroscience, Impact of aerobic exercise to reduce cognitive Decline in Parkinson's Disease, Co-I, 3 years, \$451,092. 2014
- Kickstarter.com, Human Autism Robot Teamwork Project, PI, 3 years, \$150,000. 2014
- Experiment.com, Can video games improve teamwork skills in Autism, PI, 3 years, \$4,000. 2014
- National Science Foundation (NSF-PAC) CAREER Grant, Joint Action: Neurocognitive mechanisms and practical applications, Principle Investigator (20%), 5 years, \$432,630. 2013
- USC ASPIRE II Grant, Human-robot interaction: Social motor control in human and artificial agents, Principle Investigator, 88,423. 2013
- USC ASPIRE II Grant, Human-robot interaction: Social motor control in human and artificial agents, Principle Investigator, 88,423. mechanisms and practical applications, Principle Investigator (20%), 5 years, \$432,630. 2012
- ITC (International Tobacco Control) Policy Research Program Request, Validity of fMRI and self-report for predicting trial and use of e-cigarettes, \$24,920. 2013
- National Science Foundation (NSF-PAC) CAREER Grant, Joint Action: Neurocognitive mechanisms and practical applications, Principle Investigator (20%), 5 years, \$864,237. 2012
- Patient-Centered Outcomes Research Institute (PCORI), Robotic assessment of patient outcomes in a controlled trial using transcranial direct current stimulation as an adjunct for upper extremity 2012

rehabilitation in chronic stroke, Co-Investigator (35%), 3 years, \$1,423,300.

- Army Research Institute (ARI), Towards a science of teamwork: Measuring and manipulating Human-human joint action, Primary Investigator (33%), 3 years, \$470,189 2011
- National Institutes of Health (NIH-NCMRR), The use of targeted theta-burst TMS to improve functional recovery after stroke, Principle Investigator (30%), 2 years, \$255,000. 2010
- National Institutes of Health (NIH-NCMRR), Impact of quercetin and exercise on brain plasticity and recovery in stroke, Principle Investigator (25%), 2 years, \$275,000. 2010
- National Institutes of Health (NIH-NCMRR), Tai Chi and cognitive vitality in older adults. Co-Investigator (5%), 2 years, \$255,000. 2010

**STUDENT AND FACULTY GRANTS (FUNDED)**

- USC Undergraduate Magellan Scholar, International testing of a computer-based social skills Intervention for autism (\$3,000), Mentor to Student, Lily Gullion. 2015
- Expeirment.com, International testing of a computer-based social skills intervention for autism. Intervention for autism (\$1,500, with \$1,500 match from VP for Research), Mentor to Student, Lily Gullion. 2015
- SPARC Graduate Student Research Grant, Enhancing the potency of action observation therapy using Non-invasive brain stimulation (\$3,377), Role: Mentor to Student, Jessica Baer. 2015
- McCausland Center for Brain Imaging, Validating imagery ability through functional magnetic Resonance imaging, (\$5,000), Role: Mentor to Student, Brian Seiler. 2014
- USC Undergraduate Magellan Scholar, Testing virtual and real-life tag games in children. (\$1,000), Mentor to Student, Brady Newell. 2013
- USC Undergraduate Magellan Scholar, Testing virtual and real-life bar lifting games in children (\$1,000), Mentor to Student, Lily Gullion. 2013
- SPARC Graduate Student Research Grant, An fMRI investigation of fitness-induced cognitive reserve. (\$5,000), Role: Mentor to Student, Katie Becofsky. 2013
- SPARC Graduate Student Research Grant, Enhancing the potency of action observation therapy using Non-invasive brain stimulation (\$2,120), Role: Mentor to Student, Melissa Kolar. 2013
- USC Undergraduate Magellan Scholar, Enhancing the potency of action observation therapy using brain stimulation (\$1,000), Mentor to Student, Devin Cutlip. 2013
- USC Undergraduate Magellan Scholar, Creation and implementation of teamwork camps (JAM Camps) the YMCA, (\$1000), Mentor to Student, Lily Gullion. 2013
- USC Undergraduate Magellan Scholar, Enhancing the potency of action observation therapy using brain stimulation (\$1,000), Mentor to Student, Devin Cutlip. 2013
- McCausland Center for Brain Imaging, Effect of bright light therapy on neural response to Newborn crying in women with postpartum depression in South Carolina (\$5,000), Role: Mentor to Student, Shannon Cornelius. 2010
- McCausland Center for Brain Imaging, Neural basis of fine motor impairments in children with Developmental Coordination Disorder (\$5,000), Role: Mentor to Student, Billy Ray. 2010
- McCausland Center for Brain Imaging, Neural basis of fine motor impairments in children with Developmental Coordination Disorder (\$5,000), Role: Mentor to Student, Shannon Cornelius. 2010
- McCausland Center for Brain Imaging, Cognitive function and mobility in elderly adults (\$5,000). Role: Mentor to Faculty, Gerhild Ullman. 2010

**ACADEMIC AND COMMUNITY SERVICE**

**AD-HOC REVIEWING**

- 2 Manuscripts Reviewed 2019
- 2 Manuscripts Reviewed 2018
- 2 Manuscripts Reviewed 2017
- 3 Manuscripts Reviewed 2016
- USC SPARC Internal Grant Reviewer 2013-Present
- USC ASPIRE I-II Grant Reviewer 2014-Present
- 9 Manuscripts Reviewed 2016
- PA Department of Health External Grant Reviewer 2016
- Ohio State University OSUCCC IRC Program External Reviewer 2015
- 6 Manuscripts Reviewed 2014
- 7 Manuscripts Reviewed 2013

- NSF CAREER Grant Reviewer (Cognitive Neuroscience Program) 2012
- 5 Manuscripts Reviewed 2012
- 8 Manuscripts Reviewed 2011
- 7 Manuscripts Reviewed 2010
- 16 Manuscripts Reviewed 2006-2009

**UNIVERSITY SERVICE**

- Managing Director, McCausland Center for Brain Imaging 2016-Present
- Director, USC Brain Stimulation Laboratory 2012-Present
- Exercise Science Undergraduate Committee Member 2010-2017
- McCausland Brain Imaging Committee Member 2009-Present
- Director, USC Children's Perceptual Motor Development (PMD) Lab 2014-2016
- Member, Howard Hughes Medical Institute Science Education Initiative, USC submission 2015
- Exercise Science Executive Committee Member 2010-2014
- ASPS Academic Programs Committee Member 2010-2014
- Director, Exercise Science's Division of Motor Control 2010-2012
- South Carolina Aging Research Network (SCARN) Committee Member 2009-2010
- SeniorSmart Committee Member 2009-2010

**COMMUNITY SERVICE**

- Raised funds to install free social games at autism clinics (\$800) 2015-Present
- Helped raise money (\$5000) to save the sea turtles together with Ballentine Elementary School 2015-2016
- Create and distribute ~250 'blessing bags' to homeless in December. 2013-Present
- Assistant Soccer Coach: YMCA Youth Soccer League 2011-2012, 2015
- Assistant Basketball Coach: YMCA Youth Basketball League 2011
- Helped organize community-wide silent auction to benefit local elementary school art teacher and cancer survivor (Ms. Sullivan) 2011
- Established "Parent and Child Workshops for Children" with Autism Spectrum Disorder. 2010  
Requested and received \$2,050 in free software licenses for these workshops.