CURRICULUM VITAE

Joohyun Rhee

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CURRENT WORK ADDRESS
Department of Environmental and Occupational Health
School of Public Health, Texas A&M University

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EDUCATION

2015 Ph.D. Kinesiology (Motor Neuroscience), Department of Health and Kinesiology, Texas A&M University

1999 B.S. Engineering (Information and Communication Engineering) Department of Electrical Engineering, Myungji University, Seoul, South Korea

RESEARCH INTERESTS

- Neurophysiological aspects of movement
- Aging and Obesity related movement disorders and intervention
- Effects of physical activity and sleep on motor learning/control
- Functional brain imaging

WORK EXPERIENCE

2024-Present Instructional Assistant Professor, Department of Environmental and Occupational Health, School of Public Health, Texas A&M University

2021-2024 Research Associate/Assistant Lecturer, Department of Environmental and Occupational Health, School of Public Health, Texas A&M University

2019-2021 Research Associate, Department of Environmental and Occupational Health, School of Public Health, Texas A&M University System Health Science Center.

2015-2019 Post-doctoral Research Assistant, Department of Environmental and Occupational Health, School of Public Health, Texas A&M University System Health Science Center.

2011-2015 Graduate Teaching Assistant to Dr. David Wright, Department of Health and Kinesiology, Texas A&M University.
2006-2011 Graduate Research Assistant to Dr. David Wright, Human Performance Laboratory, Texas A&M University.
1999-2005 Network Programmer/Engineer, NF Micro Systems, Seoul, South Korea.
1994-1996 Military Service: Fire Directing Officer, Republic of South Korea Army 5th Artillery Brigade, South Korea.
1991-1993 Hardware Engineer, Jinhan Communications, Seoul, South Korea.

PUBLICATIONS:

In preparation

1. **Rhee, J.**, Garrett, G.A., Riccio, C., Mehta, R.K., Vidrine, S.M., and Benden, M.E. The acute effect of a standing desk intervention on the cognitive function and neural activation of ADHD students: A pilot study using functional Near Infrared Spectroscopy
2. **Rhee, J.** and Mehta, R.K., Effect of social stress on neuromuscular performance of upper and lower extremity and accompanying neural activation changes

Published Research Papers

1. Kim, H., Wright, D.L., **Rhee, J.**, Kim, T (2023) C3 in the 10-20 system may not be the best target for the motor hand area. Brain Research 1807, 148311
2. Benden, M.E. and **Rhee, J.** (2022) Passive sensor systems for peripheral input devices and the use thereof. U.S. Patent application 17/641,397.
3. Mehta, R.K. and **Rhee, J.** (2021) Revealing Sex Differences during Upper and Lower Extremity Neuromuscular Fatigue in Older Adults through a Neuroergonomics Approach. Frontiers in Neuroergonomics.
4. Zhu, Y., Rodriguez-Paras, C., **Rhee, J.**, & Mehta, R. K. (2020). Methodological approaches and recommendations for functional near-infrared spectroscopy applications in HF/E research. Human factors, 62(4), 613-642.
5. **Rhee, J.**, & Benden, M. E. (2020). Stand-Biased Desk Intervention on Sleep Quality of High School Students: A Pilot Study Using Tri-Axial Accelerometery. International Journal of Environmental Research and Public Health, 17(1), 37.
6. Chen, J., McCulloch, A., Kim, H., Kim, T., **Rhee, J.**, Verwey, W. B., ... & Wright, D. L. (2020). Application of anodal tDCS at primary motor cortex immediately after practice of a motor sequence does not improve offline gain. Experimental brain research, 238(1), 29-37.

7. **Rhee, J.**, Mehta, R.K. (2018). Functional connectivity during handgrip motor fatigue in older adults is obesity and sex-specific. Frontiers in Human Neuroscience 12
8. Mantooth, W., Mehta, R.K., **Rhee, J.** and Cavuoto, L. A. *(2018)*. Task and sex differences in muscle oxygenation during handgrip fatigue development. *Ergonomics*.
9. Xu, D., **Rhee, J.**, Mehta, R.K., and Srinivasan, D. (2018). Neuromuscular control and performance differences associated with gender and obesity in fatiguing tasks performed by older adults, *Frontiers in Physiology*.
10. Buchanan, J.J., Park, I., Chen, J., Mehta,R. K., McCulloch, A., **Rhee, J.**, Wright, D. L. (2018) Expert monitoring and verbal feedback as sources of performance pressures. *Acta Psychologica*.
11. Mehta, R. K., & **Rhee, J.** (2017) Age-specific neural strategies to maintain motor performance after an acute social stress bout. Experimental Brain Research, 235(7), 2049–2057.
12. Mehta, R. K., Peres, C., Kannan, P., **Rhee, J.**, Shortz, A. E., Mannan, M. S. (2017), Comparison of objective and subjective operator fatigue assessment methods in offshore shiftwork. Journal of Loss Prevention in the Process Industries, 48, 3760381
13. Kennedy, D.M., **Rhee, J.H.**, Jimenez, J., & Shea, C.H. (2017) The influence of asymmetric force requirements on a multi-frequency bimanual coordination task. *Human Movement Science, 51,125-137*
14. Kim, T., **Rhee, J.H.**, & Wright, D.L.(2016) Allowing time to consolidate knowledge gained through random practice facilitates later novel motor sequence acquisition. *Acta Psychologica, 163, 153-166*
15. Kennedy, D.M., **Rhee,J.H.**, & Shea, C.H. Symmetric and asymmetric constraints impacting 1:2 and 2:1 bimanual force coordination tasks (2016). *Experimental Brain Research,* 234(1), 287-300
16. **Rhee, J.H.**, Handa, A., Bhatia, S., Chen, J., Riechman, S., & Wright, D.L. (2016). An acute bout of aerobic exercise can protect offline motor sequence gains. *Psychological Research, 80(4), 518-531*
17. Wright, D.L., Verwey, W., Buchanan, J.B., Jing, C., **Rhee, J.**, & Immink, M.A. (2016). Consolidating behavioral and neurophysiologic findings addressing contextual interference during motor sequence learning: *Psychonomic Bulletin & Review, 23(1), 1-21*
18. Handa, A., **Rhee, J.**, Bhatia, S.R., & Wright, D.L. (2015). The Structural Relationship Between Two Motor Sequences Practiced Close in Time Impacts Offline Facilitation. Journal of Motor Behavior, 2895,1-10
19. Kenneday, D.M., Boyle, J.B., **Rhee, J.**, & Shea, C.H. (2015). Rhythmical Bimanual Force Production: Homologous and Non-Homologous Muscle. Experimental Brain Research 233 (1), 181-195

20. Wright, D.L., **Rhee, J.H.**, Blischke, K., Erlacher, D., & Brueckner, S. (2012). Offline improvement occurs for temporal stability but not accuracy following practice of integer and non-integer rhythms. Acta Psychologica, 140, 266-273.
21. Wright, D.L., **Rhee, J.**, & Vaculin, A. (2010). Offline Improvement during Motor Sequence Learning is not restricted to Developing Motor Chunks. Journal of Motor Behavior, 42(5), 319-326.
22. Wright, D.L., Robin, D.A., **Rhee, J-H.**, Vaculin, A., Jacks, A., Guenther, F.H., & Fox, P.T. (2009). Using the self-select paradigm to delineate the nature and cost incurred during speech motor programming. Journal of Speech, Language, and Hearing Research, 52(3), 1-11.

Published Book Chapters

1. **Rhee, J.**, & Mehta, R. K. (2019). Quantifying Brain Hemodynamics During Neuromuscular Fatigue. In Neuroergonomics (pp. 175-180). Academic Press.
2. Wright, D.L., Sekiya, H., & **Rhee, J.** (2014) *Organization of practice*. Routledge Companion to Sport and Exercise Psychology-Global perspectives and fundamental concepts.

Published Conference Proceedings, Abstracts and Presentations

1. Kim, H., Lei, Y., **Rhee, J.**, Huynh, A., Buchanan, J., Bernard, J., Brown, J., & Wright, D. (2024) Reduced facilitatory influence of the supplementary motor complex on M1 in the presence of motor chunking The Brain Box Initiative 2024.
2. Harp, H., **Rhee, J.**, & Benden E. M. (2021) Can Technologic Advancements and Digital Tracking Provide Meaningful Insight on Employee Wellbeing? The 24th Annual Applied Ergonomics Conference.
3. **Rhee, J.**, Dillards, T., Nzoiwu, M., & Mehta, R.K. (2017) Effect of Social Stress on Motor Function in Older Adults: an fNIRS Investigation. *Proceeding of Human Factors and Ergonomics Society Annual Meeting*
4. Riccio, C.A., Mehta, R.K., Vidrine, S.M., **Rhee, J.**, Garrett, G.A., & Herrera, L. (2017) Gaming Experience: Hemodynamics and Executive Function. *37th Annual National Academy of Neuropsychology*
5. Mehta, R.K., **Rhee, J.** (2017) Functional Brain Activation During Lower Extremity Neuromuscular Fatigue In Older Women. *Medicine & Science in Sports & Exercise*
6. Mehta, R.K., **Rhee, J.**, Cavuoto, L. (2016). Muscle Oxygenation Correlates of Handgrip Fatigue with Obesity. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*

7. Park, I., Chen, J., Buchanan, J.J., Wright, D.L., Mehta, R.K, **Rhee, J.**, & Verwey, W.B. (2016). Monitoring-pressure enhances the coordination tendencies of bimanual actions. *Journal of Sport & Exercise Psychology, 38. NASPSPA*
8. Kennedy, D. M., **Rhee, J.**, Jimenez, J., & Shea, C. H. (2015). Multi-frequency Bimanual force Production: Symmetric and Asymmetric Interference. *Society for Neuroscience Annual Meeting, Chicago, IL, USA*
9. Kennedy, D. M., **Rhee, J.**, & Shea, C. H. (2015). Multi-frequency bimanual force production: 1:2 versus 2:1. *Journal of Sport & Exercise Psychology, 37, S46., NASPSPA*
10. Chen, J., **Rhee, J.**, & Wright, D. L. (2014). Verifying the impacts of monitoring stress on motor sequence performance. *Journal of Sport & Exercise Psychology, 36, S24., NASPSPA*
11. Kim, T., **Rhee, J.**, & Wright, D. L. (2014). Incorporating new knowledge following consolidation of previous motor sequence learning from random and blocked practice. *Journal of Sport & Exercise Psychology, 36, S36., NASPSPA*
12. **Rhee, J.**, & Wright, D. L. (2013). Acute Exercise prior to procedural skill practice: Arousal or learning benefit?. *Journal of Sport & Exercise Psychology*, 35, S47*., NASPSPA*.
13. Wright, D. L., Chen, J., Volz, C., & **Rhee, J.** (2013). Procedural skill performance in high stress test environments. *Journal of Sport & Exercise Psychology*, 35, S57*., NASPSPA*.
14. Kim, T., **Rhee, J.** & Wright, D. L. (2013). Incorporating new task knowledge following high contextual interference training. *Journal of Sport & Exercise Psychology*, 35, S33*., NASPSPA*.
15. Handa, A., **Rhee, J.**, Buchanan, J., & Wright, D. L. (2012). Maintaining offline improvements during procedural learning despite interference from spatially similar procedural task practice. *Journal of Sport & Exercise Psychology*, 34, S87*., NASPSPA*.
16. Yuhua, L., Hoyt, M., **Rhee, J.**, Jing, C., Jidong, L., & Wright, D. L. (2012). Do offline performance improvements emerge in both implicit and explicit learning environments? *Journal of Sport & Exercise Psychology*, 34, S105*., NASPSPA*.
17. **Rhee, J.**, & Wright, D.L. (2011) Online prediction on offline enhancement consolidation during motor sequence learning (Society for Neuroscience Annual Meeting, Washington D.C, USA)
18. Handa, A., **Rhee, J.**, Bhatia, S.R., & Wright, D.L. (2011) Alternative task practice within a 4-6 hour time window doesn't always result in a lack of procedural memory stabilization. *Journal of Sport & Exercise Psychology, 33., NASPSPA*.

19. Wright, D.L., Handa, A., Bhatia, S., & **Rhee, J,** (2011). Temporal proximity of exercise to interference can influence memory stabilization. *Journal of Sport & Exercise Psychology, 33., NASPSPA*.
20. Bhatia, S.R., Wright, D.L., **Rhee, J**., & Handa, A. (2011). Verifying that consolidation resulting in offline learning influences motor chunks. Journal of Sport & Exercise Psychology, 33., *NASPSPA*.
21. **Rhee, J.**, & Wright, D.L. (2011). Factors related to occurrence of offline enhancement. *Journal of Sport & Exercise Psychology, 33., NASPSPA*.
22. Handa, A., **Rhee, J.**, Bhatia, S.R., & Wright, D.L. Alternative task practice within a 4-6 hour time window doesn't always result in a lack of procedural memory stabilization. Student Research Week, Texas A&M University. March, 2011.
23. Wright, D.L., & **Rhee, J.** Offline improvement occurs for temporal stability but not accuracy following practice of integer and non-integer rhythm production. Program No. 505.22. 2010, San Diego, CA: Society for Neuroscience, 2010.
24. **Rhee, J.**, & Wright, D.L. Are offline learning enhancements predictable? Program No. 395.3. 2010, San Diego, CA: Society for Neuroscience, 2010.
25. **Rhee, J.**, Wright, D.L., & Ketcham, C. Spatial and temporal learning of sequential reaching task. Program No. 94.4. Society for Neuroscience Annual Meeting 2009. Chicago, IL
26. Wright, D.L., **Rhee, J.**, & Vaculin, A. Enhancement consolidation is not restricted to supporting motor sequence learning by chunking. Program No. 872.6. 2009 Society for Neuroscience Annual Meeting 2009. Chicago, IL
27. **Rhee, J.**, & Wright, D.L. (2009). Offline sequence learning enhancements are real. *Journal of Sport & Exercise Psychology, 31, S94., NASPSPA*.
28. **Rhee, J.**, Zihlman, K.A., & Wright, D.L. (2008). Parallel activation of implicit and explicit systems in observational learning. *Journal of Sport & Exercise Psychology, 30, S123., NASPSPA*.
29. Wright, D.L., **Rhee, J.**, & Vaculin, A. (2008). Enhancement consolidation for a simple procedural task: Influence of increasing practice. *Journal of Sport & Exercise Psychology, 30, S140., NASPSPA*.
30. **Rhee, J.**, Vaculin, A., & Wright, D.L. (2007). Motor programming for speech sequences. *Journal of Sport & Exercise Psychology, 29., NASPSPA*.
31. Vaculin, A.N., **Rhee, J.**, & Wright, D.L. Motor programming: Are there costs for transitions between speech elements? Educational Research Exchange, Texas A&M University. January, 2007.
32. Wright, D.L., **Rhee, J.H.**, Vaculin, A., & Robin, D.A. (2007). Motor programming for speech sequences. In P. Beek & R. von de Langenberg (Eds.), *European Workshop on Movement Science: Mechanics, Physiology, Psychology*. (pp. 23). Sportverlag Strauss, Germany.

33. **Rhee, J.H.**, Robin, D.A., Maas, E., & Wright, D.L. (2006). Motor programming during speech articulation: An application of Klapp's two process model. *Journal of Sport & Exercise Psychology, 28, S152., NASPSPA*.

Invited Presentations

1. Wright, D.L., **Rhee, J-H.**, & Riechman, S. Protecting offline consolidation of motor seqences knowledge with acute exercise. Invited presentation at the Department of Kinesiology at the University of Messachusetts, October, 2013, Amherst, MA.
2. Wright, D.L., **Rhee, J-H.**, Handa, A., Bhatia, S., & Jing, C. *Using exercise to support offline procedural learning*. Invited presentation at the Department of Kinesiology at the Shanghai Univeristy of Sport. December, 2011, Shanghai, China.
3. Wright, D.L., **Rhee, J.**, & Vaculin, A. Enhancement consolidation is not restricted to supporting motor sequence learning by chunking. "Sleep and Circadian Biology DataBlitz" an ancillary event of the SFN meeting organized by the NIH National Center on Sleep Disorders research. October, 2009, Society for Neuroscience Annual Meeting, Chicago, USA.

AWARDS AND HONORS

2013 Graduate Student Travel grant award. ($500) College of Education, Texas A&M University
2011 Graduate Student Travel grant award. ($650) Department of Health and Kinesiology, Texas A&M University
2009 Graduate Student Travel grant award. ($1200) Sydney and J.L. Huffines Institute for Sports Medicine and Human Performance.
2009 Graduate Student Travel Grant Award ($250) Office of Graduate Study, Texas A&M University
2008 Graduate Student Travel grant award. ($500) Department of Health and Kinesiology, Texas A&M University
2007 Graduate Student Travel grant award. ($650) Sydney and J.L. Huffines Institute for Sports Medicine and Human Performance.
2006 Graduate Student Travel grant award. ($500) International Student Service, Texas A&M University.

TEACHING EXPERIENCE

2024-Present Environment and Public Health
2024-Present Human Factors
2020-Present Data Management and Assessment I and II (Introductory Biostatistics)
2018-2020 Occupational Biomechanics & Ergonomics of upper extremity

2016 fNIRS data analysis during neuromuscular fatigue development (Workshop)
2013 Introduction to Kinesiology Learning Community
2012 Introduction to Kinesiology Online Class (TA)
2012 Introduction to Kinesiology (TA)
2011 Motor Learning (TA)
Motor Learning Teaching Internship (Taught 1/3 of entire coursework)

RESEARCH EXPERIENCE

2018-2020 Sensor attached computer peripheral devices to detect alcohol/opioid related abnormal bio-signals
2015-2018 Effect of stress and obesity on Neuromuscular function of older adults
2014 Change of BDNF during acute exercise bout and relationship with procedural motor sequence learning. Dissertation Study
2013 Contextual interference (presented at NASPSA 2014)
2012 **Effect of acute exercise bout on procedural motor sequence learning.** *Dissertation Study* (partial outcome presented at NASPSPA 2013 and published in peer reviewed journal)
2011 Implicit and Explicit aspects of offline enhancement in motor sequence learning
2010 Prediction of occurrence of offline enhancement using Artificial Neural Network (presented at SFN annual meeting 2010, 2011)
2009 Memory consolidation of Motor sequence learning (presented at NASPSPA)
2008 Offline Enhancement of Motor sequence learning (published in peer reviewed journal)
2007 Spatial and temporal learning of sequential reaching task (presented at SFN annual meeting 2009)
2006 Speech Motor Programming (published in peer reviewed journal)

TEACHING AREAS AND COURSES PREPARED TO TEACH

Biomechanics
Biomedical Signal Processing
Computation and large data processing/analysis in behavioral science
Exercise Physiology
Functional Neuronatomy
Human Factors
Neurophysiological Aspects of Movement
Research Design and Introductory Statistics

PROFESSIONAL ASSOCIATIONS

Society for Neuroscience (SfN)
North American Society for the Psychology of Sport and Physical Activity (NASPSPA)

Human Factors and Ergonomics Society (HFES)