Seoung Hoon Park, Ph.D.

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EDUCATION

Postdoctoral Training in Neurorehabilitation 2019-2022
Shirley Ryan AbilityLab and Northwestern University Chicago, IL, USA
Mentor: Ming Wu

Ph.D., Kinesiology – Motor Neuroscience 2014-2019
University of Florida Gainesville, FL, USA
Dissertation: Low-frequency Oscillations in Force Output - Relevance to Healthy and At-risk-for-stroke Older Adults
Mentor: Evangelos A. Christou

M.S., Kinesiology – Motor Learning and Control 2010-2012
Seoul National University Seoul, South Korea
Thesis: Differential contribution of visual and auditory information to accurately predict the direction and rotational motion of a visual stimulus
Advisor: Seonjin Kim

B.S., Kinesiology 2004-2010
Seoul National University Seoul, South Korea
* 2-year compulsory military service (2005 - 2007)

PROFESSIONAL EXPERIENCE

Presidential Frontier Faculty Assistant Professor on Tenure Track 2022-Date
Department of Health and Human Performance
Department of Communication Sciences and Disorders
Department of Clinical Sciences
University of Houston

Postdoctoral Research Fellow 2019-2022
Legs + Walking Lab, Shirley Ryan AbilityLab Chicago, IL, USA
Department of Physical Medicine and Rehabilitation, Northwestern University

Graduate Assistant 2014-2019
Department of Applied Physiology and Kinesiology, University of Florida Gainesville, FL, USA

Graduate Assistant 2010-2012
Motor Behavior Laboratory, Seoul National University Seoul, South Korea

RESEARCH FOCUS

- Neurophysiological mechanisms responsible for impaired motor control and learning in older persons and individuals with neurological diseases (stroke; spinal cord injury; cerebral palsy)
- Developing neurorehabilitation tools and protocols for improving motor control and function with emphasis on walking and balance in people with neurological diseases
- Behavioral and neural changes in response to rehabilitative interventions in individuals with neurological diseases

RESEARCH PUBLICATIONS

Peer-reviewed Journal Publications

** Corresponding author*

26. Park H, Lee BC, Li S, Sayenko DG, & **Park SH***. Transcutaneous spinal stimulation paired with visual feedback facilitates retention of improved weight transfer toward the affected side in people post-stroke. *Journal of NeuroEngineering and Rehabilitation*. 2025. In press.

25. **Park SH**, Park H, Ahn J, & Lee BC. A Novel Adaptive Propulsion Enhancement eXperience (APEX) System: Development and Preliminary Validation for Enhancing Gait Propulsion in Stroke Survivors. *IEEE Transactions on Neural Systems and Rehabilitation Engineering,* 33:1486-1496, 2025. *(10.1109/TNSRE.2025.3560324).*

24. **Park SH**, Yan S, Dee W, Reed R, Rymer WZ, & Wu M. Intermittent versus continuous adaptation to pelvis assistance during walking improves mediolateral balance in people with spinal cord injury. *Experimental Brain Research,* 243(1):21, 2025. *(10.1007/s00221-024-06971-z).*

23. **Park SH**, Yan S, Dee W, Reed R, Roth EJ, Rymer WZ, & Wu M. Enhanced phasic calf muscle activation with swing resistance enhances propulsion of the paretic leg in people post-stroke. *Journal of Neurophysiology,* 132(5):1348-1358, 2024. *(10.1152/jn.00485.2023).*

22. Yan S, **Park SH**, Dee W, Reed R, Rojas A, Rymer WZ & Wu M. Motor adaptation to continuous lateral trunk support force during walking improves trunk postural control and walking in children with cerebral palsy: A pilot study. *Human Movement Science,* 97:103258, 2024. *(10.1016/j.humov.2024.103258).*

21. Yan S, **Park SH**, Dee W, Reed R, Rojas A, Rymer WZ & Wu M. Trunk postural reactions to the force perturbation intensity and frequency during sitting astride in children with cerebral palsy. *Experimental Brain Research,* 242(1):275-293, 2024. *(10.1007/s00221-023-06744-0).*

20. **Park SH**, Yan S, Dee W, Reed R, Roth EJ, Rymer WZ, & Wu M. Overground walking with a constraint force on the non-paretic leg during swing improves paretic propulsion and walking speed in people post-stroke. *Journal of Neurophysiology,* 130(1):43-55, 2023. *(10.1152/jn.00008.2023)*.

19. Yan S, **Park SH**, Reed R, Dee W, Rojas A, Rymer WZ & Wu M. Improving trunk postural control facilitates walking in children with cerebral palsy. *American Journal of Physical Medicine and Rehabilitation,* 102(9):795-802, 2023. *(10.1097/PHM.0000000000002206).*

18. **Park SH**, Dee W, Keefer R, Roth EJ, Rymer WZ, & Wu M. Enhanced phasic sensory afferents paired with controlled constraint force improve weight shift toward the paretic side in

individuals post-stroke. *Journal of Stroke and Cerebrovascular Diseases,* 32(4):107035, 2023 *(10.1016/j.jstrokecerebrovasdis.2023.107035)*.

17. **Park SH**, Lin J, Dee W, Keefer R, Rymer WZ, & Wu M. Swing-phase pelvis perturbation improves dynamic lateral balance during walking in individuals with spinal cord injury. *Experimental Brain Research,* 241(1):145-160, 2023 *(10.1007/s00221-022-06507-3).*

16. **Park SH**, Yan S, Dee W, Reed R, Roth EJ, Rymer WZ, & Wu M. Repeated adaptation and de-adaptation to the pelvis resistance force facilitate retention of motor learning stroke survivors. *Journal of Neurophysiology,* 127(6):1642-1654, 2022 *(doi: 10.1152/jn.00046.2022)*.

15. **Park SH**, Hsu C, Dee W, Roth EJ, Rymer WZ, & Wu M. Enhanced error facilitates motor learning in weight shift and increases use of the paretic leg during walking at chronic stage after stroke. *Experimental Brain Research,* 239(11):3327-3341, 2021 *(doi: 10.1007/s00221-021-06202-9)*.

14. **Park SH**, Hsu C, Lin J, Dee W, Roth EJ, Rymer WZ, & Wu M. Increased motor variability facilitates motor learning in weight shift toward the paretic side during walking in individuals post-stroke. *European Journal of Neuroscience,* 53, 3490-3506, 2021 *(doi: 0.1111/ejn.15212).*

13. **Park SH**, Hsu C, Dee W, Roth EJ, Rymer WZ, & Wu M. Gradual adaptation to pelvis perturbation during walking reinforces motor learning of weight shift toward the paretic side in individuals post-stroke. *Experimental Brain Research,* 239, 1701-1713, 2021 *(doi: 10.1007/s00221-021-06092-x).*

12. **Park SH**, Lin J, Dee W, Hsu C, Roth EJ, Rymer WZ, & Wu M. Targeted Pelvic Constraint Force Induces Enhanced Use of the Paretic Leg During Walking in Persons Post-Stroke. *IEEE Transactions on Neural Systems and Rehabilitation Engineering,* 28(10), 2184-2193, 2020 *(doi: 10.1109/TNSRE.2020.3018397).*

11. Casamento-Moran A, Delmas S, **Park SH**, Yacoubi B, & Christou EA. Reaction to a visual stimulus: Anticipation with steady and dynamic contractions. *Journal of Human Kinetics,* 69(1), 17-27, 2019 *(doi: 10.2478/hukin-2019-0025).*

10. **Park SH**, Wang Z, McKinney W, Khemain P, Lui S, Christou EA, & Mosconi NW. Functional Motor Control Deficits in Aging Fragile X Mental Retardation 1 Premutation Carriers. *Experimental Brain Research,* 237(9), 2269-2278, 2019 *(doi: 10.1007/s00221-019-05566-3)*.

9. **Park SH**, Kim C, Yacoubi B, & Christou EA, Control of oscillatory force tasks: low-frequency oscillations in force and muscle activity. *Human Movement Science,* 64, 89-100, 2019 *(doi: 10.1016/j.humov.2019.01.009).*

8. **Park SH** & Kwon M. The effect of trial-to-trial variability during practice of force control tasks on motor learning. *Journal of Korean Society for the Study of Physical Education,* 23(2), 127-136, 2018 *(doi: 10.15831/JKSSPE.2018.23.2.127).*

7. Delmas S, Casamento-Moran A, **Park SH**, Yacoubi B, & Christou EA. Motor planning perturbation: muscle activation and reaction time. *Journal of Neurophysiology,* 120, 2059-2065, 2018 *(doi: 10.1152/jn.00323.2018)*.

6. Ernster AE, **Park SH**, Yacoubi B, Christou EA, Casamento-Moran, Singer ML, & Humbert IA. Motor transfer from the corticospinal to the corticobulbar pathway. *Physiology & Behavior,* 191, 155-161, 2018 *(doi: 10.1016/j.physbeh.2018.04.016).*

5. **Park SH**, Casamento-Moran A, Singer ML, Ernster AE, Yacoubi B, Humbert IA, & Christou EA. Integration of Visual Feedback and Motor learning: Corticospinal vs. Corticobulbar Pathway. *Human Movement Science,* 58C, 88-96, 2018 *(doi: 10.1016/j.humov.2018.01.002).*

4. **Park SH**, Casamento-Moran A, Yacoubi B, & Christou EA. Voluntary reduction of force variability via modulation of low-frequency oscillations. *Experimental Brain Research,* 235, 2717-2727, 2017 *(doi: 10.1007/s00221-017-5005-5)*.

3. **Park SH**, Kwon M, & Christou EA. Motor output oscillations with magnification of visual feedback in older adults. *Neuroscience Letters,* 647, 8-13, 2017 *(doi: 10.1016/j.neulet.2017.03.011).*

2. **Park SH**, Kwon M, Solis D, Lodha N, & Christou. EA. Motor control differs for increasing and releasing force. *Journal of Neurophysiology,* 115 (6), 2924-2930, 2016 *(doi: 10.1152/jn.00715.2015).*

1. **Park SH***, Kim SJ, Kwon M, & Christou EA. Differential contribution of visual and auditory information to accurately predict the direction and type of stimulus. *Applied Physiology, Nutrition, and Metabolism*, 41 (3), 235-243, 2016 *(doi: 10.1139/apnm-2015-0390)*.

In Review:

In Preparation:

6. Park H, Lee BC, Li S, Sayenko DG, & **Park SH**. Influence of phasic versus continuous transcutaneous spinal stimulation paired with visual feedback in people post-stroke.

5. Park H, Lee BC, Li S, Sayenko DG, & **Park SH**. Effects of visually guided locomotor training paired with off-center transcutaneous spinal stimulation on weight transfer toward the paretic leg in people post stroke.

4. Park H, Li S, Sayenko DG, & **Park SH**. Influences of mediolateral postural perturbation paired with transcutaneous spinal stimulation on dynamic balance in individuals post stroke.

3. Park H, Li S, Sayenko DG, & **Park SH**. Effects of lateral postural perturbation on dynamic balance in people post stroke.

2. **Park SH**, Maeng H, Kim K, & Sayenko D. Does transcutaneous spinal cord stimulation improve walking in individuals with spinal cord injury? A meta-analysis.

1. **Park SH**, Yan S, Dee W, Reed R, Rymer WZ, & Wu M. Phase-dependent versus constant sensory stimulation with pelvis assistance force enhances locomotor adaptation and reduces step-to-step variability in people with spinal cord injury.

OTHER PUBLICATIONS

Peer-reviewed Conference Proceedings:

1. **Park SH** & Lee BC. Development and preliminary evaluation of a real-time multiple assistance system for asymmetric gait rehabilitation using an instrumented treadmill, 24th International Conference on Control, Automation and Systems (ICCAS), 947-952, 2024

In Review:

1. **Park SH,** Park H, Ahn J, & Lee BC. Real-Time Modulation of Split-Belt Treadmill Speed Enhances Gait Propulsion and Neuromuscular Engagement in Post-Stroke Hemiparesis, 25th International Conference on Control, Automation and Systems (ICCAS), 2025

RESEARCH FUNDING

Ongoing (external):

Research Grant **Lee (PI)** **8/2024-7/2025**
Neuromeka Co., Ltd. $ 4,500
Revolutionizing a treadmill-based fall prevention training technology
Role: Co-Investigator

Ongoing (internal):

Start-up funds **Park (PI)** **9/2022-12/2025**
University of Houston $ 281,000
Role: Principal Investigator

Research Progress Grant – Early Career **Park (PI)** **1/2025-12/2025**
University of Houston, College of Liberal Arts and Social Sciences $ 4,000
Influence of lateral postural perturbation on dynamic balance post-stroke
Role: Principal Investigator

Pending:

In Review:

NIH-NICHD, 1R03HD122161-01 **Park (PI)** **4/2026-3/2028**
National Institutes of Health $ 397,800
Enhancing dynamic balance post-stroke via mediolateral perturbation and spinal neuromodulation
Role: Principal Investigator

NSF CAREER AWARD, 2544165 **Park (PI)** **1/2026-12/2030**
National Science Foundation $ 627,875
CAREER: Restoring Dynamic Walking Balance Post-Stroke via a Phased Approach to Platform Perturbation and Spinal Neuromodulation
Role: Principal Investigator

In Preparation:

NIH R21 (TBD) **Park (PI)** **2026-2028**
National Institutes of Health Amount TBD
Influence of phasic transcutaneous spinal stimulation paired with visually guided weight transfer in individuals post-stroke
Role: Principal Investigator

NIH R21 (TBD) **Park (PI)** **2026-2028**
National Institutes of Health Amount TBD
Constraint-induced movement therapy for over-ground walking in people post stroke
Role: Principal Investigator

NIH R21 (TBD) **Park (Co-PI)** **2026-2028**
National Institutes of Health Amount TBD
Influence of instrumented treadmill-based propulsion-inducing multimodal training system paired with spinal modulation
Role: Co-Principal Investigator

Completed / Previous Support:

Research Progress Grant – Early Career **Park (PI)** **1/2023-6/2024**
University of Houston, College of Liberal Arts and Social Sciences $ 4,000
Effects of improved lingual motor control on swallowing in dysphagia following stroke
Role: Principal Investigator

NIH-NICHD, R01HD083314 **Wu (PI)** **1/2021-6/2022**
National Institutes of Health
Improved dynamic lateral balance of humans with SCI
Role: Postdoc Research Associate

NIH-NINDS, R01NS115487 **Wu (PI)** **3/2021-6/2022**
National Institutes of Health
Neuromuscular mechanisms of specific trunk interventions in children with cerebral palsy
Role: Postdoc Research Associate

NIH-NICHD, R01HD082216 **Wu (PI)** **8/2019-3/2021**
National Institutes of Health
Constraint induced movement therapy for walking in individuals post stroke
Role: Postdoc Research Associate

NIH-NINDS, R21NS096258 **Christou (PI)** **9/2016-8/2019**
National Institutes of Health
Motor control deficits following transient ischemic attack
Role: Graduate Research Associate

Not Funded Applications:

CTPH CTS Pilot Award **Park (PI)** **9/2025-7/2026**
Consortium for Translational and Precision Health $ 50,000
Novel Biomarker-Guided Spinal Neuromodulation for Post-Stroke Gait Recovery: A Translational Framework for Personalized Neurorehabilitation
Role: Principal Investigator

TIRR Mission Connect Founders Neurotrauma Research Award **Park (PI)** **2025/7-2027/7**
TIRR Foundation $ 100,000
Improving weight transfer post-stroke via spinal stimulation and visual feedback
Role: Principal Investigator

NIH-NICHD, 1R21HD120894-01 **Park (PI)** **2025/12-2027/11**
National Institutes of Health $ 413,838
Influence of phasic transcutaneous spinal stimulation paired with visually guided weight transfer in individuals post-stroke
Role: Principal Investigator

NIH-NICHD, R03HD117062-01A1 **Park (PI)** **7/2025-6/2027**
National Institutes of Health $ 344,122
Influence of lateral postural perturbation paired with transcutaneous spinal stimulation on dynamic balance post-stroke
Role: Principal Investigator *Resubmission Not discussed

NIH-NICHD, R03HD117062 **Park (PI)** **12/2024-11/2026**
National Institutes of Health $ 344,120
Influence of lateral postural perturbation paired with transcutaneous spinal stimulation on dynamic balance post-stroke
Role: Principal Investigator *Impact score: 38;* ***Percentile: 25***

AHA Innovative Project Award **Park (PI)** **7/2025-6/2027**
American Heart Association $ 200,000
Lateral postural perturbation improves dynamic balance in individuals post-stroke
Role: Principal Investigator *LOI submitted

DoD, PD240124 **Park (PI)** **2025-2027**
Department of Defense $ 499,916
Transcutaneous Spinal Cord Stimulation for the Treatment of Gait and Posture in Parkinson's Disease
Role: Principal Investigator

NINDS/NIMH, R21NS140980-01 **Thrasher (PI)** **2025-2026**
National Institutes of Health $ 442,498
Transcutaneous Spinal Cord Stimulation for the Treatment of Gait and Posture in Parkinson's Disease
Role: Co-Investigator Not discussed

Equipment Grant **Parikh (PI)** **2024-2025**
University of Houston, Division of Research $ 36,165
Collaboration to Develop EEG-guided Non-invasive Stimulation-based Therapies for Fall Prevention in Stroke Survivors
Role: Co-Principal Investigator

NIDILRR, Switzer Fellowship **Park (PI)** **2023-2024**
Administration for Community Living $ 70,000
Improve dynamic balance of individuals with hemiplegic stroke
Role: Principal Investigator

NIH-NICHD, R03HD113885-01 **Park (PI)** **2023-2025**
National Institutes of Health $ 155,000
Influence of lateral postural perturbation paired with transcutaneous spinal stimulation on dynamic balance post-stroke
Role: Principal Investigator Not discussed

AHA Postdoctoral Fellowship **Park (PI)** **2022-2024**
American Heart Association $ 140,952
Effect of enhanced motor activity and sensory feedback during walking with constraint force in people post stroke
Role: Principal Investigator

NIDILRR, Switzer Fellowship **Park (PI)** **2021-2022**
Administration for Community Living $ 70,000
Application of constraint force paired with transcutaneous electrical stimulation for walking in individuals post stroke
Role: Principal Investigator

AHA Postdoctoral Fellowship **Park (PI)** **2021-2023**
American Heart Association $ 134,236
Application of constraint force paired with transcutaneous electrical stimulation for walking in individuals post stroke
Role: Principal Investigator

NIDILRR, Switzer Fellowship **Park (PI)** **2020-2021**
Administration for Community Living $ 70,000
Application of constraint force paired with enhanced sensory feedback induces forced use of the paretic leg and improves gait symmetry in individuals post-stroke
Role: Principal Investigator

TEACHING EXPERIENCE

Course Teaching:

- **Motor Learning and Control KIN 4315.** Teach the undergraduate course in the HHP program at the University of Houston. 2023-date.
- **Measurement Techniques in Human Performance KIN 4310.** Teach the undergraduate course in the HHP program at the University of Houston. 2025-date.
- **Biomechanics KIN 3309.** Teach the undergraduate course in the HHP program at the University of Houston. 2024.
- **Applied Human Anatomy APK 2100 & 2100C.** Teach three 3-hour undergraduate courses per semester in the APK program at the University of Florida. 2014-2019.
- **Swimming and Weight Training (051.012, 051.014, & 051.018).** Teach the undergraduate courses in the kinesiology program at Seoul National University. 2013-2014.

ACADEMIC COMMITTEES

University of Houston

Member:
Ph.D. committee for Ruiqing Fan (2022-date; mentor: Ashwini Joshi)
Ph.D. candidacy committee for Dacia Martinez Diaz (2024; mentor: Charles Layne)
Ph.D. candidacy committee for Komal Kukkar (2023; mentor: Pranav Parikh)

MENTORSHIP

Graduate Students:

- **2022-Date – University of Houston**
  Hyunje Park (2024-date)
  Christian Doxakis (2024-date; co-supervisor; mentor: Adam Thrasher)

- **2019-2022 – Shirley Ryan AbilityLab & Northwestern University**
  Alessandro Gozzi (2021-2022)
  Iram Hameeduddin (2021-2022)
  *Mentored in Ming Wu's lab

- **2014-2019 – University of Florida**
  Yoonjin Choi (2018-2019)
  Delmas Stefan (2017-2019)
  *Mentored in Evangelos Christou's lab

Undergraduate Students:

- **2022-Date – University of Houston**
  Adriele Rivera (2024-date)
  Nhat Nguyen (2023-date)
  Ria Kolluru (2023-date)
  Yasmeen Elfeki (2023-2024; 2024 SURF)

Celeste Contreras (2023-2024)
Tracy Akinyode (2023-2024)
Nicholas Macias (2023-2024; 2023 SURF & 2024 PURS)

- **2014-2019 – University of Florida**
  Michelle Weintraub (2019)
  Austin Wilson (2018-2019)
  Alexandra Pepin (2018)
  Shan He (2014-2015)
  *Mentored in Evangelos Christou's lab

INVITED PRESENTATIONS

- Effects of perturbation-based locomotor training on gait in individuals post-stroke. Neuromotor Skill Advancement for Post-baccalaureates (NSAP) Seminar, University of Houston, Houston, USA, 2024.

- Effects of perturbation-based locomotor training on walking and balance in people post-stroke. Institute of Sport Science, Incheon National University, Incheon, South Korea, 2023.

- Perturbation-based locomotor training for individuals post-stroke. Department of Biomedical Engineering, University of Houston, Houston, TX, USA, 2023.

- Perturbation-based locomotor training for individuals post-stroke. International Research Symposium, Taean AI Industry Promotion Agency, South Korea, 2023.

- Applying lateral pelvis resistance versus assistance during walking enhances weight shift and use of the paretic leg in individuals post-stroke. Grand Rounds, Department of Physical Medicine and Rehabilitation, Northwestern University, Chicago, IL, USA, 2021.

- Does constraint-induced forced use of the affected leg during locomotor practice improve walking performance in individuals post-stroke? Korean Society of Sport Biomechanics International Conference, Chuncheon, South Korea, 2020.

- Low-frequency oscillations and control of steady force. Human Movement Science Seminar, Seoul National University, Seoul, South Korea, 2019.

CONFERENCE PRESENTATIONS

National/International:

23. **Park SH** & Lee BC. Development and preliminary evaluation of a real-time multiple assistance system for asymmetric gait rehabilitation using an instrumented treadmill. *24th International Conference on Control, Automation and Systems (ICCAS)*, 2024.

22. Macias N & **Park SH**. Effects of lateral postural perturbation on dynamic balance in people post-stroke. *Society for Neuroscience*, 2024.

21. **Park SH**, Yan S, Dee W, Keefer R, Roth E, Rymer W, & Wu M. Enhanced phasic calf muscle activation with swing resistance enhances propulsion of the paretic leg in people post-stroke. *Society for Neuroscience*, 2023.

20. **Park SH**, Maeng H, & Kim K. Does transcutaneous spinal cord stimulation improve walking in individuals with spinal cord injury? A meta-analysis. *ACSM Annual Meeting*, 2023.

19. **Park SH**, Yan S, Dee W, Keefer R, Rymer W, & Wu M. Intermittent adaptation to pelvis perturbation during walking enhances retention and generalization of improved weight transfer in people with spinal cord injury. *Society for Neuroscience*, 2022.

18. **Park SH**, Yan S, Dee W, Reed R, Roth E, Rymer W, & Wu M. Repeated locomotor adaptation and de-adaptation facilitate retention of motor learning during walking in individuals post-stroke. *Society for Neuroscience*, 2021.

17. Yan S, **Park SH**, Reed R, Dee W, Rojas AM, Rymer WZ, & Wu M. Trunk support improves treadmill walking in children with cerebral palsy. *Society for Neuroscience*, 2021.

16. **Park SH**, Dee W, Reed R, & Wu M. Application of constraint force paired with enhanced sensory feedback induces forced use of the paretic leg and improves gait symmetry in individuals post-stroke. *International Society of Electrophysiology and Kinesiology*, 2020.

15. **Park SH**, Lin J, Dee W, Hsu C, Roth EJ, Rymer WZ & Wu M. Forced use of the affected leg during walking improves gait in individuals with stroke. *NASPSPA*, 2020.

14. **Park SH**, Kwon M, & Christou EA. Magnification of visual feedback alters modulation of motor neuron pool in older adults. *Society for Neuroscience*, 2019.

13. **Park SH**, Wang Z, McKinney W, Christou EA, & Mosconi MW. Functional motor control deficits in fragile x mental retardation 1 gene premutation carriers. *ACSM Annual Meeting*, 2019.

12. McKinney WS, Wang Z, **Park SH**, Christou EA, & Mosconi MW. Precision sensorimotor control in aging FMR1 premutation carriers. *Midwest Fragile X Research Exchange*, 2019.

11. **Park SH**, Kim C, Yacoubi B, & Christou EA. Control of dynamic force tasks: low-frequency oscillations in force and modulation of muscle activity. *Society for Neuroscience*, 2018.

10. Delmas S, Casamento-Moran A, **Park SH**, Yacoubi B, & Christou EA. Motor planning muscle activation patterns and reaction time. *Society for Neuroscience*, 2018.

9. Ernster AE, **Park SH**, Yacoubi B, Christou EA, Casamento-Moran, Singer ML, & Humbert IA. Cross-pathway transfer between the ankle and tongue. *Dysphagia Research Society*, 2018.

8. **Park SH**, Casamento-moran A, Singer ML, Ernster AE, Yacoubi B, Humbert IA, & Christou EA. Motor learning for corticospinal and corticobulbar pathways. *Society for Neuroscience*, 2017.

7. **Park SH**, Kwon M, & Christou EA. Motor output oscillations with magnification of visual feedback in older adults. *Progress in Motor Control,* 2017.

6. Delmas S, Casamento-Moran A, **Park SH**, Yacoubi B, & Christou EA. Motor output variability increases reaction time variability. *Progress in Motor Control,* 2017.

5. **Park SH**, Casamento-moran A, Yacoubi B, & Christou EA. Voluntary reduction of force variability via modulation of low-frequency oscillations. *Society for Neuroscience,* 2016.

4. Casamento-moran A, **Park SH**, Yacoubi B, & Christou EA. Low-frequency oscillations in force slow reaction time. *Society for Neuroscience,* 2016.

3. **Park SH**, Kwon M, Solis D, Lodha N, & Christou EA. Motor control differs for increasing and releasing force. *Society for Neuroscience,* 2015.

2. Kim C, **Park SH**, Paez Cecilia, Moon H, & Christou EA. Low-frequency oscillations in force and muscle activity relate to force variability during sinusoidal tasks. *The 24th Annual Meeting of the Neural Control of Movement*, 2015. (Sole Presenter)

1. Kim HJ, Yang JH, Koo DH, **Park SH**, Jung YJ, Jeong DH, Park SY, & Seo JS. Effect of the Wingate-induced Muscle Fatigue on Coordination of Upper Limb During Reaching Task: Kinematic Analysis. *The 5th Asia-Pacific Conference on Exercise and Sports Science,* 2011.

Local/State:

29. Park H, Lee BC, Li S, Sayenko D, & **Park SH**. Effect of phasic transcutaneous spinal stimulation with visual feedback on the retention of improved weight transfer in individuals post-stroke. *Revolutionary Technologies Research Symposium*, University of Houston, 2025.

28. Elfeki Y, Park H, Lee BC, & **Park SH**. Effects of phasic transcutaneous spinal stimulation paired with visually guided weight transfer in individuals post stroke. Research Day, University of Houston, 2025.

27. Park H, Lee BC, Li S, Sayenko D, & **Park SH**. Phasic transcutaneous spinal stimulation paired with visual feedback improves weight transfer toward the affected side in stroke survivors. *Patricia Levy Zusman International Workshop on Neuroregeneration*. 2025.

26. Park H, Lee B-C, Li S, Sayenko D, & **Park SH**. Influence of phasic transcutaneous spinal stimulation paired with visually guided weight transfer in people post stroke. Mission Connect Scientific Symposium, The Institute for Rehabilitation and Research Foundation, 2024.

25. Elfeki Y, Nguyen N, Kolluru R, & **Park SH**. Effects of perturbation paired with spinal stimulation on dynamic balance during walking in individuals post-stroke. Research Day, University of Houston, 2024.

24. Macias N & **Park SH**. Mediolateral perturbation performed during walking on post-stroke participants. Research Day, University of Houston, 2024.

23. **Park SH**, Lin J, Dee W, Hsu C, Roth EJ, Rymer WZ, & Wu M. Forced use of the paretic leg induced by a targeted resistance force applied to the pelvis during walking in individuals post-stroke. *Research Day, Northwestern University,* 2020.

22. **Park SH**, Wang Z, McKinney W, Christou EA, & Mosconi MW. Motor Control Deficits in Aging Fragile X Mental Retardation 1 Premutation Carriers. *Graduate Student Research Day, University of Florida,* 2019.

21. **Park SH**, Wang Z, McKinney W, Christou EA, & Mosconi MW. Functional Motor Control Deficits in Aging Fragile X Mental Retardation 1 Premutation Carriers. *14th Annual Neuromuscular Plasticity Symposium, College of Public Health and Health Professions, University of Florida,* 2019.

20. **Park SH**, Wang Z, McKinney W, Christou EA, & Mosconi MW. Functional Motor Control Deficits in Aging Fragile X Mental Retardation 1 Premutation Carriers. *The D. K. Stanley Lecture Series, College of Health & Human Performance, University of Florida,* 2019.

19. **Park SH**, Kim C, Yacoubi B, & Christou EA. Steadiness of dynamic force tasks: low-frequency oscillations in force and muscle activity. *Graduate Student Research Day, University of Florida,* 2018.

18. **Park SH**, Kim C, Yacoubi B, & Christou EA. Control of dynamic force tasks: low-frequency oscillations in force and modulation of muscle activity. *13th Annual Neuromuscular Plasticity Symposium, College of Public Health and Health Professions, University of Florida,* 2018.

17. **Park SH**, Kim C, Yacoubi B, & Christou EA. Low-frequency oscillations in force and muscle activity during sinusoidal force tasks. *The D. K. Stanley Lecture Series, College of Health & Human Performance, University of Florida,* 2018.

16. **Park SH**, Casamento-moran A, Yacoubi B, & Christou EA. Voluntary reduction of force variability via modulation of oscillations in force from 0-1 Hz. *Graduate Student Research Day, University of Florida,* 2017.

15. Ernster AE, **Park SH**, Yacoubi BK, & Christou EA, Casamento-Moran A, Singer ML, Humbert IA. Test of cross-systems transfer between corticobulbar and corticospinal pathways during goal directed tasks of the tongue and ankle. *College of Public Healthy and Health Professions Research Day, University of Florida,* 2017.

14. **Park SH**, Casamento-moran A, Yacoubi B, & Christou EA. Voluntary reduction of force variability via modulation of oscillations in force from 0-1 Hz. *Annual Diversity Graduate Research Symposium, University of Florida,* 2017.

13. Delmas, S, Casamento-Moran, A, **Park SH**, Yacoubi B, & Christou EA. Anticipation and reaction time. *Undergraduate Research Day, University of Florida,* 2017.

12. **Park SH**, Casamento-moran A, Yacoubi B, & Christou EA. Voluntary reduction of force variability via modulation of oscillations in force from 0-1 Hz. *The D. K. Stanley Lecture Series, College of Health & Human Performance, University of Florida,* 2017.

11. **Park SH**, Casamento-moran A, Yacoubi B, & Christou EA. Voluntary reduction of force variability via modulation of oscillations in force from 0-1 Hz. *12nd Annual Neuromuscular Plasticity Symposium, College of Public Health and Health Professions, University of Florida,* 2017.

10. **Park SH**, Casamento-moran A, Yacoubi B, & Christou EA. Voluntary reduction of force variability via modulation of oscillations in force from 0-1 Hz. *Graduate Student Research Symposium, College of Health & Human Performance, University of Florida,* 2016.

9. **Park SH**, Neha Lodha, & Christou EA. Greater asymmetry in motor control for TIA. *11th Annual Neuromuscular Plasticity Symposium, College of Public Health and Health Professions, University of Florida,* 2016.

8. **Park SH**, Neha Lodha & Christou EA. Greater asymmetry in motor control for TIA. *The D. K. Stanley Lecture Series, College of Health & Human Performance, University of Florida,* 2016.

7. **Park SH**, Kwon MH, Solis D, Lodha N, & Christou EA. Motor control differs for increasing and releasing force. *Graduate Student Research Symposium, College of Health & Human Performance, University of Florida,* 2015.

6. **Park SH**, Kwon MH, Solis D, Lodha N, & Christou EA. Motor control differs for increasing and releasing force. *Graduate Student Research Day*, *University of Florida ,* 2015.

5. Corti M, Casamento-Moran A, **Park SH**, Faris KJ, Piepenbrink B, & Christou EA, Subramony SH, Byrne BJ. Biomarkers in Friedreich's Ataxia: Identifying Appropriate Clinical Trial Endpoints. *CTSI Research Day*, *Clinical and Translational Science Institute, University of Florida,* 2015.

4. **Park SH**, Kim SJ & Christou EA. Different contribution of visual and auditory information to accurately predict the direction and type of stimulus. *The D. K. Stanley Lecture Series, College of Health & Human Performance, University of Florida,* 2015.

3. Kim C, **Park SH**, Paez C, Lodha N & Christou EA. Low-frequency oscillations in force and muscle activity relate to force variability during sinusoidal tasks. *10th Annual Neuromuscular Plasticity Symposium, College of Public Health and Health Professions, University of Florida,* 2015.

2. **Park SH**, Kim SJ, & Christou EA. Differential contribution of visual and auditory information to accurately predict the direction and type of stimulus. *10th Annual Neuromuscular Plasticity Symposium, College of Public Health and Health Professions, University of Florida,* 2015.

1. **Park SH**. Differential Effect of Visual and Auditory Information on Response Accuracy. *Graduate Student Research Symposium, College of Health & Human Performance, University of Florida,* 2014.

PROFESSIONAL AFFILIATIONS

- Society for Neuroscience (SfN)
- Society for the Neural Control of Movement (NCM)
- North American Society for the Psychology of Sport and Physical Activity (NASPSPA)
- American College of Sports Medicine (ACSM)
- Progress in Motor Control (PMC)
- International Society of Electrophysiology and Kinesiology (ISEK)

HONORS AND AWARDS

National/International:

- Graduate Student Writing Award, American Kinesiology Association, USA, 2019.
- Predoctoral Outstanding Research Award, Association of Korean Neuroscientists, USA, 2017.
- The Korean Honor Scholarship, The Embassy of The Republic of Korea, USA, 2017.

University of Houston:

- Poster Excellence Award, Mission Connect Scientific Symposium, TIRR Foundation, Hyunje Park, 2024.
- Provost's Faculty Travel Fund, 2024.
- Faculty Excellence, UH News, 2024.
- Scholars Walk, Featured Faculty Member, 2024.
- Summer Undergraduate Research Fellowship. Yasmeen Elfeki, 2024.
- Provost's Undergraduate Research Scholarship. Nicholas Macias, 2024.
- Summer Undergraduate Research Fellowship. Nicholas Macias, 2023.
- Provost's Faculty Travel Fund, 2023.

Northwestern University & Shirley Ryan AbilityLab:

- 1st place Sarah Baskin Outstanding Research Award, 2021.

University of Florida:

- Dr. Stacy E. and Mr. Joseph T. Cutrono Conference Scholarship Award, 2019.
- Graduate School Doctoral Dissertation Award, 2019.
- C.A. Boyd Scholarship Award, 2018.
- Outstanding Academic Achievement, 2018.
- Dr. Christian W. Zauner Scholarship Award, 2017.
- Outstanding Academic Achievement, 2017.
- David & Linda McCaughey Endowed Scholarship Award, 2016.
- Outstanding Academic Achievement, 2016.
- Outstanding International Student Award, 2015.
- Outstanding Academic Achievement, 2015.
- Grinter Fellowship, 2014-2015.

Seoul National University:

- Honor and early graduation from undergraduate, 2010.
- Cum Laude, 2010.

RESEARCH SKILLS

Software and Statistical Techniques:

- MATLAB
- LabVIEW
- Processing – Java programming
- Spike2
- Sony Vegas - video editing software
- SigmaPlot - scientific data graphing and statistical analysis software
- SPSS

Hardware and Data Collection Techniques:

- Surface Electromyography
- High-density Surface Electromyography and Decomposition
- Electroencephalography
- Inertia Measurement Units
- Motion Capture
- Force Plates
- Pressure Sensitive Walkway
- Instrumented Treadmill
- Load Cells
- Position Sensors
- Pressure Sensors
- Accelerometers
- Cable-driven Locomotor Training System
- Neuromuscular Electrical Stimulation
- Transcutaneous Electrical Stimulation
- Driving Simulator
- Eye Movement Tracking
- Lingual Control Measurement

EDITORIAL BOARD

- Korean Society of Sports Biomechanics

REVIEWER AD HOC

- Transactions on Neural Systems & Rehabilitation Engineering
- Transactions on Biomedical Engineering
- Journal of NeuroEngineering and Rehabilitation
- Neuroscience
- Neuroscience Letters
- Journal of Motor Behavior
- Frontiers in Physiology
- Physical Therapy
- Journal of Human Kinetics
- Research Quarterly for Exercise and Sport

- Brain Sciences
- Scientific Reports
- Frontiers in Human Neuroscience
- Plus One
- Experimental Brain Research

DEPARTMENTAL AND COLLEGE SERVICE

University of Florida:

- Undergraduate Research Award Committee, Department of Applied Physiology and Kinesiology, College of Health and Human Performance, 2018.
- President, Korean Student Association, College of Health and Human Performance, University of Florida, 2016 - 2017

University of Houston:

- Faculty Search Committee, Dept. of Health and Human Performance, 2023 - 2024