Beom-Chan Lee, Ph.D.

Department of Health and Human Performance, University of Houston

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Academic Appointments

09/2014-present	Assistant Professor, Department of Health and Human Performance, University of Houston, Houston, TX
05/2015-present	Researcher (without compensation), Michael E. DeBakey Veterans Affairs Medical Center, Houston, TX
06/2013-08/2014	Visiting Assistant Professor, Department of Health and Human Performance, University of Houston, Houston, TX
01/2013-05/2013	Research Investigator, Department of Mechanical Engineering, University of Michigan, Ann Arbor, MI
01/2012-12/2012	Postdoctoral Research Fellow, Department of Mechanical Engineering, University of Michigan, Ann Arbor, MI

Education

09/2008-04/2012	Ph.D., Mechanical Engineering, University of Michigan, Ann Arbor, MI Dissertation: "Design and assessment of vibrotactile biofeedback and instructional systems for balance rehabilitation applications"
03/2006-06/2008	Ph.D. (all but dissertation), Mechatronics, Gwangju Institute of Science and Technology, Gwangju, Korea
03/2004-02/2006	M.S., Mechatronics, Gwangju Institute of Science and Technology, Gwangju, Korea Thesis: "Development of K-Touch™ Haptic API (Application Programming Interface)"
03/1998-02/2004	B.S., Electrical and Computer Engineering, Kangwon National University, Chuncheon, Korea Thesis: "Implementation of 3D Haptic Interface for Virtual Reality"

Other Academic Experience

09/2011-01/2012	Graduate Student Instructor, Department of Mechanical Engineering, University of Michigan, Ann Arbor, MI
09/2008-08/2011	Research Assistant, Sensory Substitution and Augmentation Laboratory, Department of Mechanical Engineering, University of Michigan, Ann Arbor, MI
03/2004-06/2008	Research Assistant, Human Robotics Laboratory, Department of Mechatronics, Gwangju Institute of Science and Technology, Gwangju, Korea
03/2004-06/2008	Teaching Assistant, Department of Mechatronics, Gwangju Institute of Science and Technology, Gwangju, Korea
03/2002-02/2004	Research Assistant, Human Interface Laboratory, Department of Electrical and Computer Engineering, Kangwon National University, Chuncheon, Korea

RESEARCH and SCHOLARSHIP

Research Interests

Rehabilitation science and technology, biomechanics; neuroscience; robotics; biofeedback; haptics; pathological neuromuscular behavior; motor behavior; brain imaging and brain-machine interfaces; smartphone-based wearable balance/gait prostheses and technologies; fall detection and prevention

Research Impact as of August 4, 2020

h-Index per Web of Science: 9

Total citations per Web of Science: 322

h-Index per Google Scholar: 15

Total citations per Google Scholar: 708

i10-Index per Google Scholar: 24

Peer-reviewed Journal Articles

* = Beom-Chan Lee as the corresponding (senior) author

§ = UH graduate student/post-doc first author supervised by Beom-Chan Lee

IF = Impact Factor

JR = Journal Ranking

Q = Quartile

N/A = Not Available

IF, JR, and Q based on 2018 Journal Citation Reports by Thomson Reuters

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Published Journal Articles

1. Charles S. Layne, David R. Young, **Beom-Chan Lee**, Daniel G. Glaze, Aloysia Schwabe, and Bernhard Suter, "Kinematics associated with treadmill walking in Rett Syndrome", *Disability and Rehabilitation*, pp. 1-9, 2019 (IF: 2.054; JR: 20/65 (Q2) in Rehabilitation), Epub ahead of print

2. Stacey L. Gorniak, Haley Ray, **Beom-Chan Lee**, and Jing Wang, "Cognitive-motor impairment in manual tasks in adults with type 2 diabetes", *Occupation, Participation and Health*, pp. 1-9, 2019 (IF: 1.234; JR: 46/69 (Q3) in Rehabilitation), Epub ahead of print

3. §Dongyual Yoo, Dae-Hee Kim, Kap-Ho Seo, and ***Beom-Chan Lee**, "The effects of technology-assisted ankle rehabilitation on balance control in stroke survivors", *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, Vol. 27, No. 9, pp. 1817-1823, 2019 (IF: 3.478; JR: 5/65 (Q1) in Rehabilitation)

4. ***Beom-Chan Lee**, Chul-Soo Kim, and Kap-Ho Seo, "The body's compensatory responses to unpredictable trip and slip perturbations induced by a programmable split-belt treadmill", *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, Vol. 27, No. 7, pp. 1389-1396, 2019 (IF: 3.478; JR: 5/65 (Q1) in Rehabilitation)

5. §Dongyual Yoo, Kap-Ho Seo, and ***Beom-Chan Lee**, "The effect of the most common gait perturbations on the compensatory limb's ankle, knee, and hip moments during the first stepping response", *Gait and Posture*, Vol. 71, pp. 98-104, 2019 (IF: 2.414; JR: 28/83 (Q2) in Sport Sciences)

6. Stacey L. Gorniak, Fangmei Yoshimi Lu, **Beom-Chan Lee**, Paul J. Massman, and Jing Wang, "Cognitive impairment and postural control deficits in adults with Type 2 Diabetes", *Diabetes-Metabolism Research and Reviews*, Vol. 35, No. 2, pp. e3089, 2019 (IF: 4.758; JR: 28/145 (Q1) in Endocrinology and Metabolism)

7. §Dongyual Yoo, Younsun Son, Dae-Hee Kim, Kap-Ho Seo, and ***Beom-Chan Lee**,

"Technology-assisted ankle rehabilitation improves balance and gait performance in stroke survivors: A randomized controlled study with 1-month follow-up", *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, Vol. 26, No. 12, pp. 1-9, 2018 (IF: 3.478; JR: 5/65 (Q1) in Rehabilitation)

8. David R. Young, **Beom-Chan Lee**, and Charles S. Layne, "Comparison of martial artists and healthy individuals using treadmill-induced gait perturbation", *Neurology and Neuroscience Reports*, Vol. 1, No. 2, pp. 1-4, 2018 (IF: N/A; JR: N/A)

9. Charles S. Layne, **Beom-Chan Lee**, David R. Young, Daniel G. Glaze, and Bernhard Suter, "Temporal gait measures associated with overground and treadmill walking in Rett syndrome", *Journal of Child Neurology*, Vol. 33, No. 10, pp. 667-674, 2018 (IF: 2.092; JR: 49/124 (Q2) in Pediatrics)

10. §Alberto Fung, Eugene C. Lai, and ***Beom-Chan Lee**, "Usability and validation of the Smarter Balance System: An unsupervised dynamic balance exercises system for individuals with Parkinson's disease", *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 2018, Vol. 26, No. 4, pp. 798-806, 2018 (IF: 3.478; JR: 5/65 (Q1) in Rehabilitation)

11. ***Beom-Chan Lee**, Alberto Fung, and Timothy A. Thrasher, "The effects of coding schemes on vibrotactile biofeedback for dynamic balance training in Parkinson's disease and healthy elderly individuals", *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, Vol. 26, No. 1, pp. 153-160, 2018 (IF: 3.478; JR: 5/65 (Q1) in Rehabilitation)

12. Charles S. Layne, **Beom-Chan Lee**, David R. Young, Aryn Knight, Daniel G. Glaze, and Bernhard Suter, "Methodologies to objectively assess gait and postural control features in Rett syndrome-With a comment on specific challenges and how to address them", *Rare Diseases and Orphan Drugs*, Vol. 4, No. 1, pp. 1-7, 2017 (IF: N/A; JR: N/A)

13. ***Beom-Chan Lee**, Bernard J. Martin, Timothy A. Thrasher, and Charles S. Layne, "The effect of vibrotactile cuing on recovery strategies from a treadmill-induced trip", *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, Vol. 25, No. 3, pp. 235-243, 2017 (IF: 3.478; JR: 5/65 (Q1) in Rehabilitation)

14. Hao Meng, Daniel P. O'Connor, **Beom-Chan Lee**, Charles S. Layne, and Stacey L. Gorniak, "Alterations in over-ground walking patterns in obese and overweight adults", *Gait and Posture*, Vol. 53, pp. 145-150, 2017 (IF: 2.414; JR: 28/83 (Q2) in Sport Sciences)

15. Rakshatha Kabbaligere, **Beom-Chan Lee**, and Charles S. Layne, "Balancing sensory inputs: Sensory reweighting of ankle proprioception and vision during a bipedal posture task", *Gait and Posture*, Vol. 52, pp. 244-250, 2017 (IF: 2.414; JR: 28/83 (Q2) in Sport Sciences)

16. **Beom-Chan Lee**, Timothy A. Thrasher, Charles S. Layne, and Bernard J. Martin, "Vibrotactile cuing revisited to reveal a possible challenge to sensorimotor adaptation", *Experimental Brain Research*, Vol. 234, No. 12, pp. 3523-3530, 2016 (IF: 1.878; JR: 216/267 (Q4) in Neurosciences)

17. Recep Ali Ozdemir, Jose L. Contreras-Vidal, **Beom-Chan Lee**, and William H. Paloski, "Cortical activity modulations underlying age related performance differences during posture-cognition dual tasking conditions", *Experimental Brain Research*, Vol. 234, No. 11, pp. 3321-3334, 2016 (IF: 1.878; JR: 216/267 (Q4) in Neurosciences)

18. David R. Temple, **Beom-Chan Lee**, and Charles S. Layne, "Effects of tibialis anterior vibration on postural control when exposed to support surface translations", *Somatosensory and Motor Research*, Vol. 33, No. 1, pp. 42-48, 2016 (IF: 1.235; JR: 244/267 (Q4) in Neurosciences)

19. Marius Dettmer, Amir Pourmoghaddam, **Beom-Chan Lee**, and Charles S. Layne, "Do aging and tactile noise stimulation affect responses to support surface translations in healthy adults?", *Current Gerontology and Geriatrics Research*, Vol. 2016, No. 2941964, 9 pages, 2016 (IF: N/A; JR: N/A)

20. Marius Dettmer, Amir Pourmoghaddam, **Beom-Chan Lee**, and Charles S. Layne, "Associations between tactile sensory threshold and postural performance and effects of healthy aging and subthreshold vibrotactile stimulation on postural outcomes in a simple dual task", *Current Gerontology and Geriatrics Research*, Vol. 2016, No. 9797369, 11 pages, 2016 (IF: N/A; JR: N/A)

21. Hao Meng, Daniel P. O'Connor, **Beom-Chan Lee**, Charles S. Layne, and Stacey L. Gorniak, "Effects of adiposity on postural control and cognition", *Gait and Posture*, Vol. 43, pp. 31-37, 2016 (IF: 2.414; JR: 28/83 (Q2) in Sport Sciences)

22. ***Beom-Chan Lee**, Timothy A. Thrasher, Stanley P. Fisher, and Charles S. Layne, "The effects of different sensory augmentation on weight-shifting balance exercises in Parkinson's disease and healthy elderly people: A proof-of-concept study", *Journal of NeuroEngineering and Rehabilitation*, Vol. 12, No. 75, 2015 (IF: 3.582; JR: 4/65 (Q1) in Rehabilitation)

23. Marius Dettmer, Amir Pourmoghaddam, **Beom-Chan Lee**, and Charles S. Layne, "Effects of aging and tactile stochastic resonance stimulation on postural performance and postural control of younger and older adults in a sensory conflict task", *Somatosensory and Motor Research*, Vol. 32, No. 2, pp. 128-135, 2015 (IF: 1.235; JR: 244/267 (Q4) in Neurosciences)

24. Bernard J. Martin, **Beom-Chan Lee**, and Kathleen H. Sienko, "A cutaneous positioning system", *Experimental Brain Research*, Vol. 233, No. 4, pp. 1237-1245, 2015 (IF: 1.878; JR: 216/267 (Q4) in Neurosciences)

25. **Beom-Chan Lee**, Bernard J. Martin, Allison Ho, and Kathleen H. Sienko, "Postural reorganization induced by torso cutaneous covibration", *Journal of Neuroscience*, Vol. 33, No. 18, pp. 7870-7876, 2013 (IF: 6.074; JR: 29/267 (Q1) in Neurosciences)

26. **Beom-Chan Lee**, Bernard J. Martin, and Kathleen H. Sienko, "The effects of actuator selection on non-volitional postural responses to torso-based vibrotactile stimulation", *Journal of NeuroEngineering and Rehabilitation*, Vol. 10, No. 21, 2013 (IF: 3.582; JR: 4/65 (Q1) in Rehabilitation)

27. **Beom-Chan Lee**, Bernard J. Martin, and Kathleen H. Sienko, "Directional postural responses induced by vibrotactile stimulations applied to the torso", *Experimental Brain Research,* Vol. 222, No. 4, pp. 471-482, 2012 ((IF: 1.878; JR: 216/267 (Q4) in Neurosciences)

28. **Beom-Chan Lee**, Jeonghee Kim, Shu Chen, and Kathleen H. Sienko, "Cell phone based balance trainer", *Journal of NeuroEngineering and Rehabilitation*, Vol. 9, No. 10, 2012 (IF: 3.582; JR: 4/65 (Q1) in Rehabilitation)

29. **Beom-Chan Lee**, Shu Chen, and Kathleen H. Sienko, "A wearable device for real-time motion error detection and vibrotactile instructional cuing", *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, Vol. 19, No. 4, pp. 374-381, 2011 (IF: 3.478; JR: 5/65 (Q1) in Rehabilitation)

30. Sun-Uk Hwang, **Beom-Chan Lee**, Jeha Ryu, Kwan Heng Lee, and Yong-Gu Lee, "Adaptive haptic rendering for time-varying haptic and video frame rates in multi-modal interactions", *Computer Animation and Virtual World*, Vol. 21, No. 1, pp. 25-38, 2010 (IF: 0.644; JR: 96/107 (Q4) in Computer Science)

31. Jong-Phil Kim, **Beom-Chan Lee**, Hyungon Kim, Jaeha Kim, and Jeha Ryu, "Accurate and Efficient CPU/GPUBased 3-DOF Haptic Rendering of Complex Static Virtual Environments", *Presence-Teleoperators and Virtual Environments*, Vol. 18, No. 5, pp. 340-360, 2009 (IF: 0.579; JR: 99/107 (Q4) in Computer Science)

32. Jong-Phil Kim, **Beom-Chan Lee**, and Jeha Ryu, "Real-time Haptic Visualization of Printed Materials", *Journal of Computational Information Systems*, Vol. 2, pp. 81-87, 2006 (IF: N/A; JR: N/A)

33. Jong-Phil Kim, Jeung-Chul Park, **Beom-Chan Lee**, Kwan H. Lee, and Jeha Ryu, "Digital Buddhist Image Creation by Haptic Deformation", *Edutainment 2006*, pp. 989-998, 2006 (IF: N/A; JR: N/A)

Published Journal Abstracts

1. **Beom-Chan Lee**, Kelli Bechly, and Kathleen H. Sienko, "Cell phone based vibrotactile feedback system for home-based vestibular rehabilitation balance training", *Journal*

of Vestibular Research, Vol. 20, No. 3-4, pp. 234-235, 2010 (IF: 2.774; JR: 6/41 (Q1) in Otorhinolaryngology)

2. **Beom-Chan Lee** and Kathleen H. Sienko, "Wireless Mimic Device for Rehabilitation and Training Applications", *Journal of Medical Devices*, Vol. 3, No. 2, 027526, 2009 (IF: 0.539; JR: 79/80 (Q4) in Biomedical Engineering)

3. Vivek Vishwas Vichare, **Beom-Chan Lee**, Wendy Carender, Annamarie Asher, and Kathleen H. Sienko, "Vibrotactile Balance Rehabilitation Gait Assist Device", *Journal of Medical Devices*, Vol. 3, No. 2, 027509, 2009 (IF: 0.539; JR: 79/80 (Q4) in Biomedical Engineering)

Research Funding since 2016

Active Research Funding

1. **Beom-Chan Lee (UH PI)**, Bijan Najafi (BCM PI), Junmo An (UH Co-I), Sarvari Yellapragada (BCM Co-I), and Amir Sharfkhaneh (BCM Co-I), "Tele-exergame: Remotely-supervised game-based exercise platform for improving cognition and motor function in adult cancer survivors using telemedicine", University of Houston/Baylor College of Medicine Collaborative Pilot Grants, Total: $60,000, May 2020-October 2021

2. **Beom-Chan Lee (PI)** and Monthaporn S. Bryant (Co-I), "Systematic evaluations of a new smartphone-based wearable telerehabilitation system for use by people with Parkinson's disease", NIH Exploratory/Developmental Research Grant (R21), National Institutes of Health (NIH)/National Institute of Child Health and Human Development (NICHD), Total: $322,324, August 2019-July 2021

3. **Beom-Chan Lee (PI)**, "Fundamental research on the HMI and healthcare service for next-generation smart car including autonomous driving car and e-mobility", E-Mobility R&D Center Research Grant, Korea Automotive Technology Institute (KATECH), Total: $21,300, August 2019-March 2021

4. **Beom-Chan Lee (Subcontract PI)** and Yoonjung Park (Subcontract Co-I), "Developing and assessing wearable technologies to predict and prevent falls", ICT R&D program of Ministry of Science and ICT (MSIT)/Institute for Information and Communications Technology Promotion (IITP), Ministry of Science and ICT (MSIT); UH subcontract with Korea Institute of Robot and Convergence (KIRO), Subcontract Total: $444,640, June 2017-December 2020

Completed Research Funding

1. **Beom-Chan Lee (PI)**, "Validation of smartphone-based sensory augmentation

technology for home-based balance training of people with Parkinson's disease", Research Grants, American Parkinson's Disease Association (APDA), Total: $50,000, September 2017-August 2018

2. **Beom-Chan Lee (PI)**, "A novel ankle rehabilitation system for facilitating recovery of stroke patients", Research Progress Grant, College of Liberal Arts and Social Science, University of Houston, Total: $4,000, March 2017-February 2018

3. **Beom-Chan Lee (PI)**, "Development of accurate and reliable algorithms for evaluating Parkinsonian tremor", Michael E. DeBakey Veterans Affairs Medical Center (MEDVAMC), Total: $16,717.62, June 2016-September 2017

4. **Beom-Chan Lee (Subcontract PI and Co-I)**, Monthaporn S. Bryant (PI), George R. Jackson (Co-I), Fariha Zaheer (Co-I), and Charles G. Minard (Co-I), "Effect of resistance exercise on tremor and hand dexterity in Parkinson's disease", Veterans Administration (I21), National Institutes of Health (NIH)/U.S. Department of Veterans Affairs (VA); UH subcontract with Michael E. DeBakey Veterans Affairs Medical Center (MEDVAMC), Subcontract Total: $17,476.73, March 2016-September 2017

5. **Beom-Chan Lee (PI)**, "The effects of exercise training combined with assistive technologies on spasticity, balance, and gait in individuals with post-stroke hemiparesis", Research Grants, Korea Institute of Robot and Convergence (KIRO), Total: $25,800.50, September 2016-August 2017

6. **Beom-Chan Lee (PI)**, "Validation of smartphone-based sensory augmentation technology for home-based balance training of people with Parkinson's disease", Research Grants, American Parkinson's Disease Association (APDA), Total: $50,000, September 2016-August 2017

7. **Beom-Chan Lee (PI)**, "The effects of smartphone-based biofeedback for home-based balance training in Parkinson's disease", Research Progress Grant, College of Liberal Arts and Social Science, University of Houston, Total: $3,929, March 2016-February 2017

8. **Beom-Chan Lee (Co-I)**, Michael Cottingham (PI), and Don Lee (Co-I), "Development of measures for classification system for athletes with disabilities", Research Progress Grant, College of Liberal Arts and Social Science, University of Houston, Total: $11,795, March 2016-February 2017

Other Publications

* = Beom-Chan Lee as the corresponding (senior) author

§ = UH graduate student/post-doc first author supervised by Beom-Chan Lee

‡ = UH graduate student first author supervised by Beom-Chan Lee as dissertation co-chair

Magazine

1. **Beom-Chan Lee**, Jong-Phil Kim, and Jeha Ryu, "K-Touch Haptic API for Various Datasets", *Graphics Live*, pp. 82-89, September, 2006

Peer-reviewed Conference Proceedings

1. §Junmo An, Jiyeon Kim, Eugene C. Lai, and ***Beom-Chan Lee**, "Effects of a smartphone-based wearable telerehabilitation system for in-home dynamic weight-shifting balance exercises by individuals with Parkinson's disease", *42nd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS)*, July 20-24, 2020

2. §Junmo An, Dongyual Yoo, and ***Beom-Chan Lee**, "Electrocortical activity changes in response to unpredictable trip perturbations induced by a split-belt treadmill", *41th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS)*, pp. 110-113, July 23-27, 2019

3. §Alberto Fung, Eugene C. Lai, and ***Beom-Chan Lee**, "A new smart balance rehabilitation system technology platform: Development and preliminary assessment of the Smarter Balance System for home-based balance rehabilitation for individuals with Parkinson's disease", *40th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS)*, pp. 1534-1537, July 18-21, 2018

4. ***Beom-Chan Lee**, Bernard J. Martin, Timothy A. Thrasher, and Charles S. Layne, "A new fall-inducing technology platform: development and assessment of a programmable split-belt treadmill", *39th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS)*, pp. 3777-3780, July 11-15, 2017

5. ***Beom-Chan Lee**, Dae-Hee Kim, Younsun Son, Kap-Ho Seo, Dongyual Yoo, Sung Ho Park, and Alberto Fung, "Development and assessment of a novel ankle rehabilitation system for stroke survivors", *39th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS)*, pp. 3773-3776, July 11-15, 2017

6. Muhammad Raheel Afzal, Sanghun Pyo, Min-Kyun Oh, Young Sook Park, **Beom-Chan Lee**, and Jungwon Yoon, "Haptic based gait rehabilitation system for stroke patients", *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pp. 3198-3203, October 9-14, 2016

7. ***Beom-Chan Lee** and Alberto Fung, "Smartphone-based sensory augmentation technology for home-based balance training", *15th International Conference on Control, Automation and Systems (ICCAS)*, pp. 947-952, October 13-16, 2015

8. ‡Stefan Madansingh, Timothy A. Thrasher, Charles S. Layne, and ***Beom-Chan Lee**, "Smartphone based fall detection system", *15th International Conference on Control, Automation and Systems (ICCAS)*, pp. 370-374, October 13-16, 2015

9. David R. Temple, **Beom-Chan Lee**, and Charles S. Layne, "Effects of tibialis anterior muscle vibration on quiet stance", *IEEE Symposium on Haptic Interfaces for Virtual Environment and Teleoperator Systems (HAPTICS)*, pp. 523-528, February 23-26, 2014

10. **Beom-Chan Lee**, Allison Ho, Bernard J. Martin, and Kathleen H. Sienko, "Effects of co-vibrotactile stimulations around the torso on non-volitional postural responses", *34th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS)*, pp. 6149-6152, August 28-September 1, 2012

11. **Beom-Chan Lee**, Bernard J. Martin, and Kathleen H. Sienko, "Comparison of non-volitional postural responses induced by two types of torso based vibrotactile stimulations", *IEEE Symposium on Haptic Interfaces for Virtual Environment and Teleoperator Systems (HAPTICS)*, pp. 195-198, March 4-7, 2012

12. **Beom-Chan Lee** and Kathleen H. Sienko, "Effects of attractive versus. repulsive vibrotactile instructional cues on motion replication tasks", *33rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS)*, pp. 3533-3536, August 30-September 3, 2011

13. **Beom-Chan Lee** and Kathleen H. Sienko, "Balance training via multimodal biofeedback", *International Conference on Fall Prevention and Protection (ICFPP)*, pp. 77-80, May 19-20, 2010

14. **Beom-Chan Lee**, Sun-Uk Hwang, Hyungon Kim, Yong-Gu Lee, and Jeha Ryu, "Smooth haptic interaction methods in augmented reality haptics", *International Workshop on Ubiquitous Virtual Reality (IWUVR)*, pp. 44-47, July 8-11, 2009

15. Yongwon Seo, **Beom-Chan Lee**, Yeongmi Kim, Jong-Phil Kim, and Jeha Ryu, "K-HapticModeler^{TM}: A Haptic Modeling Scope and Basic Framework", *IEEE International Workshop on Haptic Audio Visual Environments and Their Applications (HAVE)*, pp. 136-141, October 12-14, 2007

16. **Beom-Chan Lee**, Jong-Phil Kim, Jongeun Cha, and Jeha Ryu, "Development of K-Touch^{TM} haptic API for various datasets", *EuroHaptics 2006*, pp. 537-541, July 3-6, 2006

17. Youngho Lee, Sejin Oh, **Beom-Chan Lee**, Jeung-Chul Park, Youngmin Park, Yoo Rhee Oh, Seokhee Lee, Han Oh, Jeha Ryu, Kwan H. Lee, Hong Kook Kim, Yong-Gu Lee, JongWon Kim, Yo-Sung Ho, and Woontack Woo, "Responsive multimedia system for context-based storytelling", *Pacific-Rim Conference onMultimedia (PCM) Special Section, Part I*, pp. 365-372, November 13-16, 2005

18. Jongeun Cha, **Beom-Chan Lee**, Seungjun Kim, and Jeha Ryu, "Smooth haptic interaction in broadcasted augmented reality", *10th IFIP TC13 International Conference on Human-Computer Interaction (INTERACT)*, pp. 1046-1049, September 12-16, 2005

19. **Beom-Chan Lee**, Junhun Lee, Jongeun Cha, and Jeha Ryu, "Immersive live sports experience with vibrotactile sensation", *10th IFIP TC13 International Conference on Human-Computer Interaction (INTERACT)*, pp. 1042-1045, September 12-16, 2005

20. Jong-Phil Kim, **Beom-Chan Lee**, and Jeha Ryu, "Haptic rendering with six virtual cameras", *11th International Conference on Human-Computer Interaction (HCI)*, pp. 467-472, July 22-27, 2005

21. Oktay Yarimaga, Junhun Lee, **Beom-Chan Lee**, and Jeha Ryu, "Tactile sensation display by electrotactile interface", *5th International Conference on Control, Automation and Systems (ICCAS)*, pp.145-150, June 2-5, 2005

Conference Abstracts

1. *__Beom-Chan Lee__, Bernard J. Martin, Junmo An, and Kap-Ho Seo, "Vibrotactile cueing improves kinematic recovery after unexpected slip perturbations induced by a split-belt treadmill", *44th Annual Meeting of the American Society of Biomechanics*, August 4-7, 2020 (Accepted)

2. §Junmo An, Jiyeon Kim, Eugene C. Lai, and *__Beom-Chan Lee__, "Association between activities-specific balance confidence, dynamic gait index, and physical activity in people with Parkinson's disease", *44th Annual Meeting of the American Society of Biomechanics*, August 4-7, 2020 (Accepted)

3. §Junmo An, Dongyual Yoo, and *__Beom-Chan Lee__, "Electrocortical activity while standing, walking, and recovery after unpredictable trip perturbations", *49th Annual Meeting of the Society for Neuroscience (SfN)*, October 19-23, 2019

4. David R. Temple, **Beom-Chan Lee**, Patrick Leung, and Charles S. Layne, "Effects of achilles tendon vibration, fingertip light touch, and fingertip noise on postural control", *49th Annual Meeting of the Society for Neuroscience (SfN)*, October 19-23, 2019

5. Charles S. Layne, **Beom-Chan Lee**, Patrick Leung, and David R. Temple, "Effects of achilles tendon vibration and foot noise on postural control", *49th Annual Meeting of the Society for Neuroscience (SfN)*, October 19-23, 2019

6. §Dongyual Yoo, Junmo An, Kap-Ho Seo, and *__Beom-Chan Lee__, "The changes of trunk dynamics in response to unpredictable trip perturbation in older adults", *41th Annual International Conference of the IEEE Engineering in Medicine and Biology Society*

(EMBS), July 23-27, 2019

7. Charles S. Layne, Rakshatha Kabbaligere, and **Beom-Chan Lee**, "Gravitational unloading delays adaptation to support surface translations", *48th Annual Meeting of the Society for Neuroscience (SfN)*, November 3-7, 2018

8. Rakshatha Kabbaligere, **Beom-Chan Lee**, and Charles S. Layne, "Kinematic and neuromuscular adaptation to unloaded walking", *48th Annual Meeting of the Society for Neuroscience (SfN)*, November 3-7, 2018

9. Rakshatha Kabbaligere, **Beom-Chan Lee**, and Charles S. Layne, "Interaction between visual flow and tendon vibration during postural control", *47th Annual Meeting of the Society for Neuroscience (SfN)*, November 11-15, 2017

10. §Dongyual Yoo and ***Beom-Chan Lee**, "Long-term ankle stretching exercises with a robotic system for individuals after stroke", *KSEA-KABMS-KOES West Gulf Coast Conference*, November 4, 2017

11. Bernhard Suter, David R. Young, **Beom-Chan Lee**, and Charles S. Layne, "Temporal gait measures associated with overground versus treadmill walking in Rett syndrome", *National Organization for Rare Diseases (NORD) Annual Meeting*, October 16-17, 2017

12. §Alberto Fung, Eugene C. Lai, and ***Beom-Chan Lee**, "Smarter Balance System: Smartphone-based biofeedback technology for clinical and/or home-based balance rehabilitation", *International Society for Posture and Gait Research (ISPGR) World Congress*, June 25-29, 2017

13. ‡Stefan Madansingh, **Beom-Chan Lee**, and Charles S. Layne, "Sensorimotor adaptation is generalized within individuals among manual and locomotor tasks", *NASA Human Research Program Investigators' Workshop (HRP IWS)*, January 23-26, 2017

14. §Younsun Son, Dae-Hee Kim, Kap-Ho Seo, Sung Ho Park, Alberto Fung, Dongyual Yoo, and ***Beom-Chan Lee**, "A novel assistive technology for ankle rehabilitation training of stroke survivors", *Korean-American Scientists and Engineers Association West Gulf Coast Regional Conference*, November 19, 2016

15. Amber M. Chelette, **Beom-Chan Lee**, Timothy A. Thrasher, Rakshatha Kabbaligere, and Charles S. Layne, "Interaction of attention, instructions, and proprioception in a joint matching and N-Back task", *46th Annual Meeting of the Society for Neuroscience (SfN)*, November 12-16, 2016

16. Rakshatha Kabbaligere, Faisal Karmali, **Beom-Chan Lee**, and Charles S. Layne, "Effect of stochastic mastoid vibration on perception of vestibular recognition of rotary motion", *46th Annual Meeting of the Society for Neuroscience (SfN)*, November 12-16, 2016

17. Charles S. Layne, Rakshatha Kabbaligere, and **Beom-Chan Lee**, "Balancing sensory inputs: sensory reweighting of vision and ankle proprioception during a bipedal posture task", *46th Annual Meeting of the Society for Neuroscience (SfN)*, November 12-16, 2016

18. Bernard Suter, David Young, **Beom-Chan Lee**, Daniel G. Glaze, and Charles S. Layne, "Double support times during treadmill walking are associated with MECP2 mutation type in Rett syndrome", *Conference on Clinical Research for Rare Diseases (CCRRD)*, November 3, 2016

19. Monthaporn S. Bryant, Craig D. Workman, Hao Meng, **Beom-Chan Lee**, Fariha Jamal, George R. Jackson, and Michele K. York, "Multidirectional treadmill training in de novo patients with Parkinson's disease: gait, balance and kinematics changes", *4th World Parkinson Congress*, September 20-23, 2016

20. Bernard J. Martin, Timothy A. Thrasher, Charles S. Layne, and ***Beom-Chan Lee**, "A possible challenge to sensorimotor adaptation", *45th Annual Meeting of the Society for Neuroscience (SfN)*, October 17-21, 2015

21. Stacey L. Gorniak, **Beom-Chan Lee**, and Jing Wang, "Cognitive interference effects during manual force production in adults with Type II Diabetes", *45th Annual Meeting of the Society for Neuroscience (SfN)*, October 17-21, 2015

22. ***Beom-Chan Lee**, Stanley P. Fisher, Charles S. Layne, and Timothy A. Thrasher, "Assessment of guidance modality on weight-shifting balance exercises in individuals with Parkinson's disease", *International Society for Posture and Gait Research (ISPGR) World Congress*, June 29-July 2, 2015

23. ‡Stefan Madansingh, Timothy A. Thrasher, Charles S. Layne, and ***Beom-Chan Lee**, "Real-time smartphone based fall detection platform for at-risk populations", *International Society for Posture and Gait Research (ISPGR) World Congress*, June 29-July 2, 2015

24. ***Beom-Chan Lee**, Timothy A. Thrasher, and Charles S. Layne, "The effects of vibrotactile cuing on recovery performance from treadmill-induced trip in healthy young adults", *International Society for Posture and Gait Research (ISPGR) World Congress*, June 29-July 2, 2015

25. ***Beom-Chan Lee**, Stefan Madansingh, Timothy A. Thrasher, and Charles S. Layne, "The effects of vibrotactile cuing on recovery kinetics after treadmill-induced trip in healthy young adults", *44th Annual Meeting of the Society for Neuroscience (SfN)*, November 15-19, 2014

26. Charles S. Layne, David R. Temple, and **Beom-Chan Lee**, "Effects of tibialis anterior vibration on anterior-posterior center of pressure while exposed to various forward translations", *44th Annual Meeting of the Society for Neuroscience (SfN)*, November

15-19, 2014

27. Hao Meng, **Beom-Chan Lee**, Charles S. Layne, and Stacey L. Gorniak, "Effects of adiposity on postural stability in overweight and obese adults", *44th Annual Meeting of the Society for Neuroscience (SfN)*, November 15-19, 2014

28. David R. Temple, **Beom-Chan Lee**, and Charles S. Layne, "Effects of tibialis anterior vibration on anterior-posterior center of pressure while exposed to various backward translations", *44th Annual Meeting of the Society for Neuroscience (SfN)*, November 15-19, 2014

29. *__Beom-Chan Lee__, "Towards ubiquitous balance aids through sensory augmentation, *US-Korea Conference*, August 6-9, 2014

30. **Beom-Chan Lee**, Allison Ho, Bernard J. Martin, and Kathleen H. Sienko, "Postural reorganization in response to torso-based co-vibrotactile stimulation", *42nd Annual Meeting of the Society for Neuroscience (SfN)*, October 13-17, 2012

31. **Beom-Chan Lee**, Jeonghee Kim, Wendy Carender, and Kathleen H. Sienko, "Cell phone based sensory augmentation for balance training", *Annual Meeting of the Gait and Clinical Movement Analysis Society (GCMAS)*, May 9-12, 2012

32. **Beom-Chan Lee**, Bernard J. Martin, and Kathleen H. Sienko, "Postural post-effects in response to torso-based vibrotactile stimulation", *39th Annual Meeting of the Society for Neuroscience (SfN)*, October 17-21, 2009

33. **Beom-Chan Lee**, Jong-Phil Kim, Jeung-Chul Park, Kwan H. Lee, and Jeha Ryu, "Haptic deformation using graphics hardware and kd-trees", *43rd International Conference and Exhibition on Computer Graphics and Interactive Techniques (ACM SIGGRAPH)*, July 30-August 3, 2006

34. **Beom-Chan Lee**, Jong-Phil Kim, Jongeun Cha, and Jeha Ryu, "K-Touch^{TM} haptic API for various datasets", *43rd International Conference and Exhibition on Computer Graphics and Interactive Techniques (ACM SIGGRAPH)*, July 30-August 3, 2006

35. Jong-Phil Kim, **Beom-Chan Lee**, and Jeha Ryu, "A hapitc rendering for hybrid environments", *42nd International Conference and Exhibition on Computer Graphics and Interactive Techniques (ACM SIGGRAPH)*, July 31-August 4, 2005

Media Coverage

1. "Walking the walk", Fall Magazine, University of Houston, December 2018
   https://ssl.uh.edu/magazine/2018-fall/health-science/walking-the-walk.php

2. "New smartphone-based system could help people with Parkinson's disease (PD)", Spring Newsletter, American Parkinson Disease Association (APDA), April 2018

   https://d2icp22po6iej.cloudfront.net/wp-content/uploads/2018/04/APDA-1804-FY18-NEWSLETTER-no-spreads.pdf

3. "Sensor-packed smart belt could help Parkinson's patients stay on their feet", Digital Trends, January 17, 2018

   https://www.digitaltrends.com/cool-tech/wearable-device-parkinsons-falls/

4. "Smart belt helps Parkinson's patients with balance", CliniCrowd, August 13, 2017

   https://clinicrowd.info/smart-belt-helps-parkinsons-patients-balance/

5. "Wearable balance system aims to help lessen fall risk among Parkinson's patients", Rehab Management, August 7, 2017

   http://www.rehabpub.com/2017/08/wearable-balance-system-aims-help-lessen-fall-risk-among-parkinsons-patients/

6. "Wearable balance system aims to lessen risk of falling", Headline Health, August 6, 2017

   https://headlinehealth.com/biofeedback-technology-helping-improve-balance-parkinsons-patients/

7. "Biofeedback system for Parkinson's rehab", Medgadget-Medical Technology News, August 4, 2017

   https://www.medgadget.com/2017/08/biofeedback-system-parkinsons-rehab.html

8. "Smart belt helps Parkinson's patients with balance", CNET, August 2, 2017

   https://www.cnet.com/news/parkinsons-elderly-falls-smarter-balance-system/

9. "This sensor-packed smart belt could keep Parkinson's patients from falling", Health and Wellbeing News, August 2, 2017

   https://www.wareable.com/health-and-wellbeing/smarter-balance-system-parkinsons-belt-4955

10. "This smart belt and app could help people with Parkinson's keep their balance", Consumer Technology Association, August 2, 2017

    https://www.cta.tech/News/Blog/Articles/2017/August/This-Smart-Belt-and-App-Could-Help-People-with-Par.aspx

11. "Biofeedback technology helping improve balance in Parkinson's patients, University of Houston study", BioSpace, August 1, 2017

    https://www.biospace.com/article/around-the-web/biofeedback-technology-helping-

improve-balance-in-parkinson-s-patients-university-of-houston-study-/

12. "Wearable biofeedback system improves balance in Parkinson's patients", AI in Healthcare-Innovation to Transform Healthcare, July 31, 2017

    https://www.aiin.healthcare/topics/connected-care/wearable-biofeedback-system-improves-balance-parkinsons-patients

13. "Wearable balance system aims to lessen risk of falling", ScienceDaily, July 31, 2017

    https://www.sciencedaily.com/releases/2017/07/170731164013.htm

14. "Biofeedback technology helping improve balance in Parkinson's patients: Wearable balance system developed at UH aims to lessen risk of falling", EurekAlert, July 31, 2017

    https://www.eurekalert.org/pub_releases/2017-07/uoh-bth073117.php

15. "Wearable device gives real-time posture feedback to Parkinson's patients", Medical Design Outsourcing Device Technology Magazine, July 25, 2017

    https://www.medicaldesignandoutsourcing.com/wearable-device-feedback-parkinsons-patients/

16. "Houston researchers develop wearable biofeedback system to improve balance in Parkinson's patients", Parkinson's News Today, July 17, 2017

    https://parkinsonsnewstoday.com/2017/07/17/parkinsons-disease-balance-problems-targeted-by-new-wearable-biofeedback-technology/

17. "Biofeedback technology helping improve balance in Parkinson's patients", News and Events, University of Houston, July 10, 2017

    https://ssl.uh.edu/news-events/stories/2017/June/06302017ParkinsonsBalance.php

18. "UH Moment: Parkinson's disease balancing app", Houston Public Media, June 25, 2017

    https://www.houstonpublicmedia.org/articles/shows/uh-moment/2017/06/25/206217/uh-moment-parkinsons-disease-balancing-app/

Awards, Honors, and Scholarships

1. Provost's travel fund award, University of Houston, May 2018
2. GenDepot poster award, KSEA-KABMS-KOES West Gulf Coast Conference, November 2017 (graduate student first author)
3. Most distinguished alumni award, Gwangju Institute of Science and Technology, November 2017

4. Dr. David Watson Graduate Student Poster Award, NASA Human Research Program Investigators' Workshop, February 2017 (graduate student first author)

5. GenDepot poster award, Korean-American Scientists and Engineers Association West Gulf Coast Regional Conference, November 2016 (postdoctoral fellow first author)

6. Provost's travel fund award, University of Houston, October 2015

7. Provost's travel fund award, University of Houston, December 2014

8. Best poster candidate, IEEE Symposium on Haptic Interfaces for Virtual Environment and Teleoperator Systems, February 2014

9. Best paper candidate, IEEE Symposium on Haptic Interfaces for Virtual Environment and Teleoperator Systems, March 2012

10. Best paper award, KHCI conference, February 2006

11. Scholarship student, Korea Research Foundation, 2004-2008

12. Best graduation project award, Kangwon National University, November 2003

13. Scholarship student, Brain Korea 21, 2001-2003

Invited Presentations

1. "Towards smarter technology for balance and gait rehabilitation", Gwangju Institute of Science and Technology Alumni Conference, November 3, 2017

2. "Learning and relearning stable balance and locomotion with assistive technology", Rehabilitation Service Robot R&BD Support Cluster, Korea Institute of Robot and Convergence, July 11, 2017

3. "Wearable biofeedback technologies for balance rehabilitation", Korea Institute of Robot and Convergence, October 13, 2016

4. "Technology-assisted motor learning in human performance", College of Health Sciences, Ewha Womans University, July 15, 2015

5. "Vibrotactile biofeedback technologies to improve balance performance", Division of Nursing Science, Ewha Womans University, July 15, 2015

6. "Vibrotactile biofeedback technology for balance and gait rehabilitation", School of Mechanical Engineering, Gyeongsang National University, July 14, 2015

7. “Adaptation versus cuing-based recovery performance from a simulated trip”, School of Mechatronics, Gwangju Institute of Science and Technology, July 13, 2015

8. “Smartphone based biofeedback technology for improving biomechanics of balance and posture”, 28th International University Sports Federation Conference, July 12, 2015

9. “Vibrotactile biofeedback technologies to improve balance performance”, Department of Mechanical Engineering, Korea Advanced Institute of Science and Technology, July 10, 2015

10. “The effect of vibrotactile cuing on recovery strategies from a treadmill-induced trip”, Pittsburgh Claude D. Pepper Older Americans Independence Center and Department of Bioengineering, University of Pittsburgh, April 28, 2015

11. “Sensory augmentation for balance and gait rehabilitation”, School of Mechatronics, Gwangju Institute of Science and Technology, August 1, 2014

12. “Wearable sensors and systems in healthcare”, Korea Automotive Technology Institute, July 29, 2014

13. “Towards ubiquitous balance aids through sensory augmentation”, Department of Computer Engineering, Kyung Hee University, July 25, 2014

14. “Wearable balance aid through sensory biofeedback and cutaneous contribution to posture”, Korea Institute of Industrial Technology, July 24, 2014

Exhibitions and Demonstrations

1. “Haptic deformation and material property modeling system”, 16th Symposium on Haptic Interfaces for Virtual Environment and Teleoperator Systems, Reno, Nevada, March 13-14, 2008

2. “Digilog Book”, Interactive Design Art and Technology (iDAT), Singapore Science Center, Singapore, Indonesia, December 7-10, 2008

3. “Multimodal Haptic Interactions”, Next Generation PC Fair, COEX, Seoul, Korea, November 28-December 1, 2007

4. “Interactive Haptic Systems for Medical, Education, and Entertainment Purposes”, Next Generation PC Fair, KINTEX, Ilsan, Korea, November 16-18, 2006

5. “Realistic Broadcasting System”, SEK/IT Techno Mart/ITRC Forum, COEX, Seoul, Korea, June 21-24, 2006

6. “K-Touch^{TM} Haptic API and Wearable Tactile Display”, Global Sources Electronics and

Components China Sourcing Fair, AsiaWorld-Expo, Hong Kong, April 15-18, 2006

7. "Haptic Deformation, Games, and Various Haptic Algorithms", Conference on HCI/VR/CG/DESIGN, Phoenixpark, PyeongChang, Korea, February 13-19, 2006

8. "K-Touch™ Haptic API and Haptic Modeling", IT-SoC 2005 and Next Generation PC Fair, COEX, Seoul, Korea, November 3-5, 2005

9. "Realistic Broadcasting System", SEK/IT Techno Mart/ITRC Forum, COEX, Seoul, Korea, June 9-11, 2005

10. "Virtual Buddhist Image Sculpting Experience System with Haptic Interface", Conference on HCI/VR/CG/DESIGN, EXCO, Daegu, Korea, January 31-February 3, 2005

TEACHING and MENTORSHIP

Teaching (University of Houston)

Courses Taught

KIN 3309: Biomechanics (Spring/Fall 2015-2018, Spring 2019, Spring 2020)

PEP 7398: Journal Club (Spring 2015, Fall 2016)

PEP 8390: Contemporary Issues in Health and Human Performance (Spring 2017)

PEP 8350: HHP Candidacy Project Research (Fall 2017)

Courses Developed

PEP 7397: Advanced Biomechanical Signal Processing and Analysis (Spring 2016, Fall 2019)

Guest Lecturer

PEP 8831: Integrated Systems Physiology (Fall 2014)

PEP 8303: HHP Research Seminar (Fall 2015, Fall 2016)

Supervision and Mentorship

Research Faculty

Junmo An, Ph.D., Research Assistant Professor, Department of Health and Human Performance, University of Houston, August 2019-present

Postdoctoral Fellows

Jiyeon Kim, Ph.D., Department of Health and Human Performance, University of Houston, August 2019-July 2020

Junmo An, Ph.D., Department of Health and Human Performance, University of Houston, November 2018-July 2019

Younsun Son, Ph.D., Department of Health and Human Performance, University of Houston, July 2016-February 2018

Current Doctoral Student

Dongyual Yoo, Ph.D. Student, Department of Health and Human Performance, University of Houston, September 2016-present

Former Doctoral Student

Alberto Fung, Ph.D. Student, Department of Health and Human Performance, University of Houston, September 2015-February 2019

Awarded Doctorates

Andrew Paek, "Decoding hand produced grip events from noninvasive scalp electroencephalography", Department of Electrical and Computer Engineering, University of Houston, Committee, May 2020, Committee

David Young, "Mechanisms of sensory integration during postural adaptation", Department of Health and Human Performance, University of Houston, May 2020, Committee

David Temple, "Effects of tendon vibration, light tough, and mechanical noise on postural control: Implications for somatosensory reweighting", Department of Health and

Human Performance, University of Houston, December 2019, Committee

Ahsan Shahzad, "Falls detection, prediction and cognitive decline assessment based on inertial sensors", School of Electrical Engineering and Computer Science, Gwangju Institute of Science and Technology, February 2019, Committee

Rakshatha Kabbaligere, "Adaptive changes in gait and balance control to unloading", Department of Health and Human Performance, University of Houston, December 2018, Committee

Craig Workman, "The influence of dopaminergic medication on gait and balance automaticity and nonlinear regularity in Parkinson's disease", Department of Health and Human Performance, University of Houston, December 2018, Committee

Stefan Madansingh, "Leveraging sensorimotor adaptive generalizability to minimize dynamic fall risk", Department of Health and Human Performance, University of Houston, December 2016, **Co-Chair**

Amber Chelette, "The effect of age, cognition, and context on human responses to tendon vibration", Department of Health and Human Performance, University of Houston, December 2016, Committee

Recep Ali Ozdemir, "Cortical control of human upright stance", Department of Health and Human Performance, University of Houston, May 2016, Mentor

Marius Dettmer, "Vibration of the foot sole as an intervention to improve older adults' postural stability", Department of Health and Human Performance, University of Houston, May 2014, Mentor

Awarded Masters

Linh Vu, M.S., "Assessing lumbar kinematics with flexible strain sensor system", Department of Industrial Engineering, University of Houston, January 2018, Committee

Undergraduate Students

Mathew Mendoza, undergraduate research assistant, Department of Health and Human Performance, University of Houston, 2019-2020

Richard Huh, undergraduate research assistant, Department of Health and Human Performance, University of Houston, 2019-2020

Emily Song, undergraduate research assistant, Department of Biology and Biochemistry, University of Houston, 2019-2020

Jahnavi Schneider, undergraduate research assistant, Department of Health and Human Performance, University of Houston, 2018

Balu Kurup, undergraduate research assistant, Department of Health and Human

Performance, University of Houston, 2018

Kayla Bustos, undergraduate research assistant, Department of Health and Human Performance, University of Houston, 2018

Mubeen Iqbal, undergraduate research assistant, Department of Health and Human Performance, University of Houston, 2016-2017

Amy Tsang, undergraduate research assistant, Department of Health and Human Performance, University of Houston, 2016-2017

Ayesha Masood, undergraduate research assistant, Department of Health and Human Performance, University of Houston, 2016

Chelsea Ngo, undergraduate research assistant, Department of Health and Human Performance, University of Houston, 2016

Michael Appleman, undergraduate research assistant, Department of Health and Human Performance, University of Houston, 2016

Andrea White, undergraduate research assistant, Department of Health and Human Performance, University of Houston, 2015

Crystal Okenkpu, undergraduate research assistant, Department of Health and Human Performance, University of Houston, 2015

Liya Oommen, undergraduate research assistant, Department of Health and Human Performance, University of Houston, 2015

Shernice Thomas, undergraduate research assistant, Department of Health and Human Performance, University of Houston, 2015

Student Success

Dongyual Yoo, "A new robot-assisted therapy for stroke survivors: Effects of long-term stretching exercises on ankle range of motion, balance and gait", Graduate Research and Scholarship Projects Day, University of Houston, November 2017

Alberto Fung, Pre Candidacy Project Research Award, Department of Health and Human Performance, University of Houston, April 2017

Ayesha Masood, "Evaluation of delayed FDG-PET in differentiating progressive disease from pseudoprogression in brain tumors", Undergraduate Research Day, University of Houston, October 2016

SERVICE

Academic Service (University of Houston)

University Member

Building Reliable Advances and Innovations in Neurotechnology (BRAIN) Center, Spring 2018-present

Center for Neuromotor and Biomechanics Research (CNBR), Summer 2013-present

Department Member

Graduate Tuition Fellowships (GTF) Committee, Fall 2019-present

Dietetic Internship Selection Committee, Fall 2017-present

Graduate Research Degrees (GRD) Committee, Spring 2017-present

GRD Membership Committee, Fall 2017-Spring 2019

Faculty Search Committee for Director of Clinical Education, Fall 2016-Fall 2017

Faculty Search Committee for Biomechanics, Spring 2016

Undergraduate Studies Committee, Fall 2015-Spring 2017

Scholarship Committee, Fall 2014-Spring 2016

Faculty Search Committee for Motor Behavior, Fall 2014-Spring 2015

Comprehensive Examination Committee, Spring 2016-Spring 2018

- David Young (Spring 2018)
- Rakshatha Kabbaligere (Fall 2016)
- David Temple (Spring 2016)

Candidacy Paper Committee, Spring 2015-Spring 2017

- David Young (Spring 2017)
- Ram Kinker Mishra (Spring 2017)
- Rakshatha Kabbaligere (Spring 2016)
- Raul Amador (Spring 2016)

Craig Workman (Spring 2015)

Professional Service

Editorial Board Member

Journal of Physical and Rehabilitation Medicine Forecast, 2017-present

Journal of Computer Engineering, 2016-present

Grant Reviewer

John R. Evans Leaders Fund program, Canada Foundation for Innovation (CFI), February 2020

Small Business Innovation Research (SBIR) program, NIH National Cancer Institute (NCI), March 2018

NASA Space Technology Research Fellowship, 2014-2017

Manuscript Reviewer

Clinical Interventions in Aging

Design of Medical Devices Conference

Experimental Brain Research

Frontiers in Psychology-Movement Science and Sport Psychology

Frontiers in Robotics and AI-Biomedical Robotics

Gait and Posture

Gerontology

IEEE Engineering in Medicine and Biology Society

IEEE Haptics Symposium

IEEE Transactions on Biomedical Engineering

IEEE Transactions on Human-Machine Systems

IEEE Transactions on Neural Systems and Rehabilitation Engineering

IEEE Transactions on Haptics

Intelligent Service Robotics

Interacting with Computers

International Conference on Control, Automation and Systems

Journal of Biomechanics

Journal of Diabetes Science and Technology

Journal of Intelligent Service Robotics

Journal of Medical Devices

Journal of NeuroEngineering and Rehabilitation

Journal of Physical and Rehabilitation Medicine Forecast

Multisensory Research

PLOS ONE

Soft Robotics

Somatosensory and Motor Research

Service to Professional Organizations

Session Chair, 15th International Conference on Control, Automation and Systems, Busan, Korea, October 13-16, 2015

Professional Mentor, Technology Localization Program, Korea Institute of Industrial Technology, Santa Clara, USA, October 18-20, 2014

Professional Mentor, Technology Localization Program, Korea Institute of Industrial Technology, Santa Clara, USA, October 19-20, 2012

Professional Memberships

American Society of Biomechanics (ASB), 2020-present

International Society for Posture and Gait Research (ISPGR), 2014-present

Korean-American Scientists and Engineers Association (KSEA), 2011-present

Society for Neuroscience (SfN), 2009-present

Institute of Electrical and Electronics Engineers (IEEE), 2006-present