

## Hao-Yuan Hsiao, Ph.D.

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### EDUCATION

PhD, 2015	University of Delaware, Newark, DE <b>Biomechanics and Movement Science</b>
MEng, 2011	Cornell University, Ithaca, NY <b>Biomedical Engineering</b>
MS, 2005	National Taiwan Ocean University, Keelung, Taiwan <b>Electrical Engineering</b>
BS, 2003	National Taiwan Ocean University, Keelung, Taiwan <b>Electrical Engineering</b>

### PROFESSIONAL EXPERIENCE

Aug 2018 – present	<b>Assistant Professor</b> , Department of Kinesiology and Health Education, University of Texas at Austin.
Jan 2016 – Mar 2018	<b>Post-doctoral Research Fellow</b> , Department of Physical Therapy and Rehabilitation Science, University of Maryland, Baltimore.
Aug 2011 – Dec 2015	<b>Research Assistant</b> , Muscle Performance Laboratory, Department of Physical Therapy, University of Delaware
Nov 2005 – May 2010	<b>Engineer</b> , Mixed-signal IC design division, Design Department III, Holtek Semiconductor

### PEER-REVIEWED PUBLICATIONS († indicates corresponding author, \* indicates mentees)

1. **Dunlap E, Alhalimi T, McLaurin N, Foroughi F\*, Hsiao H, Tanaka H†**. Aquatic Cognitive-Motor Exercise for Cognition, Balance, and Functional Mobility in Older Adults, *Translational Journal of the American College of Sports Medicine* (In press).
2. **Shen K\*, Gray VL, Borrelli J, Rogers MW, Hsiao H†**. Lower limb vertical stiffness and frontal plane angular impulse during perturbation-induced single leg stance and their associations with gait in individuals post-stroke. *Journal of Biomechanics*, 163:111917, Jan, 2024.
3. **Sadeh S\*, Shen K\*, Foroughi F\*, Hsiao H†**. Leading Limb Biomechanical Response Following Compelled Forward and Descending Body Shift in Old Versus Young Adults. *Clinical Biomechanics*, 112:106169, Jan, 2024.
4. **Foroughi F\*, Prible D\*, Hsiao H†**. Age-associated changes in vertical limb support force generation strategy during walking. *Gait and Posture*, 107:162-168, Jan, 2024.
5. **Odanye PO, Steffensen E, Hedrick EA, Bierner S, Hsiao H, Knarr BA†**. Treadmill handrail-use increases the anteroposterior margin of stability in Individuals Post-stroke. *Journal of Motor Behavior*, 23:1-10, Nov, 2023.
6. **Sadeh S\*, Gobert D, Shen K\*, Foroughi F\*, Hsiao H†**. Biomechanical and Neuromuscular Control Mechanisms of Balance during Sit-to-Stand in Older versus Younger Adults. *Clinical Biomechanics*, 109:106068, Oct, 2023.
7. **Jeon W†, Borrelli J, Hsiao H**. Effect of visual input on control of postural stability during balance recovery following lateral surface perturbations in older and younger adults. *Journal of Applied Biomechanics*, 39(3):184-192, May, 2023.

8. **Pew C<sup>†</sup>, Sadeh S<sup>\*</sup>, Hsiao H, Neptune R.** A perturbation platform system for balance testing and rehabilitation interventions. *Journal of Medical Devices*, 17(2): 021001, Jun, 2023,
9. **Prible D<sup>\*</sup>, Fey N, Hsiao H<sup>†</sup>.** Biomechanical mechanism of peak braking force modulation during increased walking speed in healthy young adults. *Journal of Biomechanics*, 144:111311, Sept, 2022
10. **Shen K<sup>\*</sup>, Prajapati SK, Borrelli J, Gray VL, Westlake KP, Rogers MW, Hsiao H<sup>†</sup>.** Neuromechanical mechanisms of impact absorption during perturbation-induced limb loading in individuals post-stroke. *Scientific Reports*, 12(1):19104, Nov, 2022.
11. **Hinton EH, Likens A, Hsiao H, Binder-Markey BI, Binder-Macleod SA, Knarr BA<sup>†</sup>,** Ankle stiffness modulation during different gait speeds in individuals post-stroke. *Clinical Biomechanics*, 99:105761, Oct, 2022.
12. **Jeon W, Griffin L, Hsiao H<sup>†</sup>.** Effects of initial foot position on postural responses to lateral standing surface perturbations in younger and older adults. *Gait & Posture*, 90:449-456, Oct, 2021.
13. **Jeon W, Hsiao H, Griffin L<sup>†</sup>.** Effects of different initial foot positions on kinematics, muscle activation patterns, and postural control during a sit-to-stand in younger and older adults. *Journal of Biomechanics*, 117, Mar, 2021
14. **Hedrick EA, Parker SM, Hsiao H, Knarr BA<sup>†</sup>.** Mechanisms used to increase propulsive forces on a treadmill in older adults. *Journal of Biomechanics*, 115, Jan, 2021
15. **Hsiao H, Creath RA, Sanders OP, Inacio M, Beamer BA, Rogers MW<sup>†</sup>.** Acoustic pre-stimulation modulates startle and postural reactions during sudden release of standing support surface in aging. *Human Movement Science*, 74, Dec, 2020
16. **Hsiao H<sup>†</sup>, Gray VL, Borrelli J, Rogers MW.** Biomechanical control of paretic lower limb during imposed weight transfer in individuals post-stroke. *Journal of Neuroengineering and Rehabilitation*, 17(1):140, Oct, 2020.
17. **Awad L<sup>†</sup>, Hsiao H, Binder-Macleod SA.** Central drive to the paretic ankle plantarflexors affects the relationship between propulsion and walking speed after stroke. *Journal of Neurologic Physical Therapy*, 44(1):42-48, Jan, 2020
18. **Sanders OP, Hsiao H, Savin DN, Creath RA, Rogers MW<sup>†</sup>.** Aging changes in protective balance and startle responses to sudden drop-perturbations. *Journal of Neurophysiology*, 122(1):39-50, July, 2019.
19. **Sanders OP, Hsiao H, Savin DN, Creath RA, Rogers MW<sup>†</sup>.** Aging effects of motor prediction on protective balance and startle responses to sudden drop perturbations. *Journal of Biomechanics*, 91:23-31, May, 2019.
20. **Borrelli J, Creath RA, Pizac D, Hsiao H, Sanders OP, Rogers MW<sup>†</sup>.** Perturbation-evoked lateral steps in older adults: why take two steps when one will do? *Clinical Biomechanics*, 63:41-47, March, 2019.
21. **Hsiao H, Gray VL, Creath RA, Binder-Macleod SA, Rogers MW<sup>†</sup>.** Control of lateral weight transfer is associated with walking speed in individuals post-stroke. *Journal of Biomechanics*, 60:72-78, June, 2017
22. **Palmer JA<sup>†</sup>, Hsiao H, Wright T, and Binder-Macleod SA,** Single session of FES-assisted walking produces changes in corticomotor symmetry that are related to changes in post-stroke walking mechanics. *Physical Therapy*, 97(5):550-560, February, 2017
23. **Hsiao H<sup>†</sup>, Zabielski T, Palmer JA, Higginson JS, and Binder-Macleod SA.** Evaluation of measurements of propulsion used to reflect changes in walking speed in individuals post-stroke. *Journal of Biomechanics*, 49(16):4107-4112, October, 2016

24. **Hsiao H<sup>†</sup>, Higginson JS, and Binder-Macleod SA**, Baseline predictors of treatment gains in propulsive force in individuals poststroke, *Journal of Neuroengineering and Rehabilitation*, 13:2, January, 2016
25. **Hsiao H<sup>†</sup>, Knarr BA, Higginson JS, and Binder-Macleod SA**, Mechanisms used to increase propulsive force following 12-weeks of gait training in individuals poststroke, *Journal of Biomechanics*, 49(3):388-95, December, 2015
26. **Hsiao H<sup>†</sup>, Awad LN, Palmer JA, Higginson JS, and Binder-Macleod SA**, Contribution of paretic and non-paretic limb peak propulsive forces to changes in walking speed in individuals poststroke, *Neurorehabilitation and Neural Repair*, 30(8):743-52, Sep, 2016
27. **Palmer JA<sup>†</sup>, Hsiao H, Awad LN, and Binder-Macleod SA**, Symmetry of corticomotor input to plantarflexors influences the propulsive strategy used to increase walking speed post-stroke, *Clinical Neurophysiology*, 127 (3):1837-44, December, 2015
28. **Hsiao H<sup>†</sup>, Knarr BA, Higginson JS, and Binder-Macleod SA**, Mechanisms to increase propulsive force for individuals poststroke, *Journal of Neuroengineering and Rehabilitation*, 12:40, April, 2015.
29. **Hsiao H<sup>†</sup>, Knarr BA, Higginson JS, and Binder-Macleod SA**, The relative contribution of ankle moment and trailing limb angle to propulsive force during gait, *Human Movement Science*, 39 :212-21, February, 2015.

#### MANUSCRIPTS IN REVISION/REVIEW

1. **Lowe T, Hsiao H, Griffin L<sup>†</sup>**. Acute hamstring vibration reduces limb stiffness following anterior cruciate ligament reconstruction. *Journal of Biomechanics*.
2. **Smith J\*, Hsiao H<sup>†</sup>, Jackson T\*, Liu W**. Dynamic stability during Tai-chi stepping with lateral ground support perturbation in older adults. *Journal of Biomechanics*.
3. **Lanza MB, Lateef S, Frakes N, Hsiao H, Gray V**, Changes in early activation and step performance after a stroke: A comparison between paretic and non-paretic legs. *Clinical Neurophysiology*.
4. **Foroughi F, Smither M, Hedrick EA, Knarr BA, Hsiao H**. Frontal-plane biomechanical model to predict weight bearing during walking in older adults. *Journal of Biomechanics*.

#### MANUSCRIPTS IN PREPARATION

1. **Sadeh S\*, Shen K\*, Hsiao H<sup>†</sup>**. Neuromechanical adaptation to balance regulation following repeated exposure to ground support perturbation. *Clinical Biomechanics*
2. **Jackson T\*, Parker SM, Hedrick-Hinton E, Knarr BA, Hsiao H<sup>†</sup>**. Evaluating lateral body center of mass sway on self-paced and fixed speed treadmills. *Human Movement Science*.
3. **Nakamura S\*, Sadeh S\*, Rogers MW, Hsiao H<sup>†</sup>**. Biomechanical determinants of lateral step initiation time following unilateral drop perturbation in older adults. *Journal of Biomechanics*.
4. **Shen K\*, Lee R, Hsiao H<sup>†</sup>**. Revealing mechanical source of abnormal weight transfer in post-stroke gait through inverted pendulum dynamics. *Journal of Biomechanics*.
5. **Foroughi F\*, Sadeh S\*, Hsiao H**. Effect of real-time biofeedback on weight bearing characteristics during walking in older adults. *Journal of Biomechanics*.
6. **Shen K\*, Hsiao H<sup>†</sup>**. Interaction between Centroidal Angular Momentum and Pendulum Dynamics during Human Walking. *Proceedings of the National Academy of Sciences*
7. **Sadeh S\*, Shen K\*, Foroughi F\*, Rogers MW, Hsiao H<sup>†</sup>**. Biomechanical Responses Following Compelled Forward versus Backward Body Shift: How Aging and Perturbation Direction Alter Balance Recovery? *Human Movement Science*

## PATENTS

1. **Hung-Chang Chen and HaoYuan Hsiao**, Power configuring device and method thereof, *Taiwan Patent*. Patent No. 201113693, Publication Date: 04/16/2011
2. **Yi-Chen Chen and Kevin Hsiao**, Low Voltage Offset Comparator with Hysteresis. *Taiwan Patent*. Patent No. I299617, Publication Date: 08/01/2008

## RESEARCH PRESENTATIONS

### Invited Seminar Presentation

Relationships between lateral weight transfer and walking speed during gait in individuals post-stroke. Department of Physical Therapy and Rehabilitation Science Research Day, University of Maryland, Baltimore, MD, 2016

### International Conference Special Session organizer/presenter

Locomotor Rehabilitation in Individuals Post-stroke, International Conference on Neurorehabilitation, Spain, Nov 2024.

### Conference Podium Presentations

**Shen KS, Borrelli J, Gray V, Rogers MW, Hsiao H.** Control of vertical support and frontal plane stability during perturbation-induced single support in individuals post-stroke, World Congress of Biomechanics, July 2022

**Shen KS, Prajapati S, Borrelli J, Gray V, Rogers MW, Hsiao H.** Changes In Stepping Biomechanics After 6-Week Perturbation-Induced Weight Transfer Training Post-Stroke, Annual Meeting of the American Society of Biomechanics, Aug 2021

**Prible D, Hsiao H.** Frontal Plane Thoracolumbar and Pelvis Kinematics are Associated with Force Production in Hemiparetic Gait, Annual Meeting of the American Society of Biomechanics, Aug 2020

**Hsiao H, Gray VL, Borrelli J, Rogers MW.** Lower limb loading control during rapid impact force in individuals post-stroke. American Physical Therapy Association Combined Sections Meeting, 2019.

**Hsiao H, Knarr BA, Higginson JS, and Binder-Macleod SA.** The relative contribution of trailing limb angle and ankle moment to changes in propulsive force during walking in individuals poststroke. Center for Biomedical Engineering and Research Symposium, University of Delaware, 2015

**Palmer JA, Hsiao H, and Binder-Macleod SA.** Asymmetrical corticomotor input to the plantarflexors influences the biomechanical strategy of speed modulation in Individuals post-stroke. Center for Biomedical Engineering and Research Symposium, University of Delaware, 2015

**Hsiao H, Knarr BA, Higginson JS, and Binder-Macleod SA.** A biomechanical-based model for predicting propulsive forces during able-bodied gait. Center for Biomedical Engineering and Research Symposium, University of Delaware, 2014

**Brandis CE, Awad LN, Hsiao H, Marion MS, Kesar TM, Knarr BA, Higginson JS, Binder-Macleod SA,** The effects of fatigue on post-stroke muscle force production and center of mass acceleration: a musculoskeletal simulation analysis. Computer methods in biomechanics and biomedical engineering (CMBBE), Salt Lake city, Utah, 2012.

### Conference Poster Presentations

**Hsiao H, Shen KH, M.D., Tsai J, Lee R,** Effects of a 6-week lateral treadmill oscillation walking (TOW) training on balance and gait functions in chronic stroke survivors, World Congress for Neurorehabilitation, May 2024

**Smith J, Jackson T, Liu W, Hsiao H,** Combined Effects of Tai-Chi Gait with Lateral ground Support Perturbations on Dynamic Balance Control: A Pilot Study in Younger and Older Adults. American Society of Biomechanics Annual Meeting, Aug 2023

**Nakamura S, Sadeh S, Hsiao H,** Biomechanical determinants of lateral step initiation after unilateral ground support drop perturbation, South Central American Society of Biomechanics, Apr 2023

**Jeon W, Borrelli J, Hsiao H**, Effects Of Visual Input Absence On Balance Recovery Responses To Lateral Standing Surface Perturbations In Older And Younger Adults. ACSM Annual Meeting and World Congress, Jun 2023

**Nakamura S, Sadeh S, Hsiao H**, Biomechanical Determinants of Lateral Step Initiation After Unilateral Ground Support Drop Perturbation. CARE Research Day, The University of Texas at Austin, Apr 2023

**Jannesar T, Shen KH, Hsiao H**, Effect of treadmill oscillation walking on weight transfer characteristics in individuals post-stroke: A Case Report. CARE Research Day, The University of Texas at Austin, Apr 2023

**Lowe T, Hsiao H, Dong XN, Griffin L**, Effects of Hamstring Vibration on Limb Stiffness Following Anterior Cruciate Ligament Reconstruction. Orthopaedic Research Society Annual Meeting, Feb 2023

**Sadeh S, Shen KH, Foughi F, Hsiao H**, Biomechanical Response Following Compelled Forward Weight Shift in Old Versus Young Adults. American Congress of Rehabilitation Medicine 99th Annual Meeting, Nov 2022

**Odanye OP, Steffensen EA, Hinton EA, Bierner S, Hsiao H, and Knarr BA**. Treadmill Handrail Use Increases Paretic Side Margin Of Stability In Individual's Post-Stroke, North American Congress On Biomechanics, Aug 2022

**Hsiao H, Sadeh S, Shen KH**. Biomechanical Determinants of Lateral Step Initiation Speed Immediately After Ground Support Perturbation in Healthy Adults, International Society of Posture and Gait Research, July 2022

**Foughi F, Smither M, Hedrick EA, Parker SM, Knarr BA, Hsiao H**. Age-associated changes in vertical support strategy with increasing walking speed, Annual Meeting Of The Gait & Clinical Movement Analysis Society, Jun 2022

**Jackson T, Prible D, Liu W, Hsiao H**. Effects of tai chi with perturbation on balance control in old and young adults, CARE Research Day, The University of Texas at Austin, Apr 2022 (Best Poster Award)

**Sadeh S, Shen KS, Foughi F, Hsiao H**. Lower limb biomechanical response following compelled forward weight shift in old and young adults, CARE Research Day, The University of Texas at Austin, Apr 2022

**Shen KS, Borrelli J, Gray V, Hsiao H**. Deficits in paretic hip abduction torque production may reduce vertical support and stability during perturbation-induced sudden single stance in individuals post-stroke, CARE Research Day, The University of Texas at Austin, Apr 2022

**Foughi F, Prible D, Hsiao H**. Age-associated changes in limb loading strategy with increasing walking speed, CARE Research Day, The University of Texas at Austin, Apr 2022

**Prible D, Binder-Macleod SA, Hsiao H**. Trunk Movement during Single-Limb Support Predicts Paretic Peak Propulsive Force in Individuals with Hemiparesis, American Physical Therapy Association Combined Sections Meeting, Feb 2022

**Foughi F, Smither M, Hedrick EA, Parker SM, Knarr BA, Hsiao H**. Frontal-plane biomechanical model for predicting weight bearing during walking in older adults, Annual Meeting of the American Society of Biomechanics, Aug 2021

**Jackson TA, Parker SM, Hedrick EA, Knarr BA, Hsiao H**. Lateral Balance Regulation on Self-Paced and Fixed Speed Treadmills in Aging, Annual Meeting of the American Society of Biomechanics, Aug 2021

**Shen KH, Prajapati S, Borrelli J, Gray V, Rogers MW, Hsiao H**. Changes in Stepping Biomechanics After 6-week Perturbation Induced Weight Transfer Training Post-Stroke, CARE Research Day, The University of Texas at Austin, Apr 2021

**Sadeh S, Hsiao H**. Lower Limb Biomechanical and Neuromuscular Habituation Response Following Repeated Perturbation-Imposed Weight Transfer in Older Adults, CARE Research Day, The University of Texas at Austin, Apr 2021

**Smither M, Hsiao H**. Frontal Plane Biomechanical Model to Predict VGRF in Individuals Post-Stroke. CARE Research Day, The University of Texas at Austin, Apr 2021

**Prible D, Shen KS, Hsiao H.** A Portable Biofeedback System to Augment Peak Vertical Ground Reaction Force While Walking, CARE Research Day, The University of Texas at Austin, Apr 2021

**Jackson T, Parker SM, Hedrick EA, Knarr BA, Hsiao H.** Mediolateral Sway of Center of Mass in Older Adults on Self-Paced and Fixed Speed Treadmills, CARE Research Day, The University of Texas at Austin, Apr 2021

**Foroughi F, Hsiao H.** The relative contribution of the frontal-plane gait biomechanics to increases in the VGRF, CARE Research Day, The University of Texas at Austin, Apr 2021

**Hedrick EA, Hsiao H, Binder-Markey BI, Binder-Macleod SA, Knarr BA,** Ankle Stiffness Modulation During Different Gait Speeds In Individuals Post-Stroke, Human Movement Variability Conference at the University of Nebraska Omaha, Feb 2021.

**Shen KS, Borrelli J, Gray V, Rogers MW, Hsiao H,** Lower Limb Stiffness in Individuals with Chronic Stroke, APTA Combined Sections Meeting (virtual), Feb 2021

**Prible D, Binder-Macleod SA, Hsiao H.** Trunk Lateral Flexion is Associated with Force Production in Hemiparetic Gait, APTA Combined Sections Meeting (virtual), Feb 2021

**Shen KS, Prajapati S, Borrelli J, Gray V, Rogers MW, Hsiao H,** Neuromechanical Control of Ankle Joint during Forced Lower Limb Loading in Individuals with Chronic Stroke, Annual Meeting of the American Society of Biomechanics (virtual), Aug 2020

**Williams E, Shen KS, Hsiao H,** Front and Hind Limb Landing Mechanics of the Ankle Joint During Forced Limb Loading in a Split Stance, 2nd Annual Interprofessional Health Showcase, The University of Texas at Austin, May 2020  
(*Best in Research Award; 3rd place People's Choice Award*)

**Borrelli JR, Creath RA, Pizac D, Hsiao H, Sanders O, Rogers MW.** Center of mass control differentiates single step and multistep lateral balance recovery responses, ACRM Annual Conference, *Progress in Rehabilitation Research*, November 2019.

**Jeon W, Hsiao H, Wreford B, Coronado C, Griffin L.** Effects of aging on muscle activation patterns and postural control during a sit-to-stand with different initial foot positions. Annual Meeting of the Society for Neuroscience, Chicago, IL, 2019.

**Hsiao H, Gray VL, Borrelli J, Rogers MW.** Control of Lower Limb Loading in Individuals with Chronic Stroke. Annual Meeting of the American Society of Biomechanics, Calgary, Canada, 2019.

**Ahamed SJ, Gupta D, Abraham L, Hsiao H.** Effects of kinesio tape on ankle moment and muscle activation in individuals with flat foot during the stance phase of walking: Preliminary Study. CARE Research Symposium, University of Texas at Austin, 2019

**Borrelli JR, Creath RA, Pizac D, Hsiao H, Sanders O, Rogers MW.** Center of mass control differentiates single and multistep lateral protective stepping reactions in older adults, Aging Research Symposium, University of Maryland Baltimore, 2019

**Galgiani JE, Pohlig RT, Morton SM, Alcântara CC, Hsiao H, Higginson JS.** Timed up and go performance moderates the relationship between trailing limb angle and walking speed in stroke survivors, New Orleans, LA, 2018

**Sanders O, Singh H, Hsiao H, Creath R, Rogers MW.** Motor prediction modulates protective balance and startle responses to sudden drop perturbations in standing humans. International Society of Posture and Gait Research, Fort Lauderdale, FL, 2017

**Hsiao H, Creath RA, Gray VL, Binder-Macleod SA, Rogers MW.** Relationships between lateral weight transfer and walking speed during gait in individuals post-stroke. Annual Meeting of the American Society of Biomechanics, Raleigh, NC, 2016.

**Hsiao H, Higginson JS, and Binder-Macleod SA.** Baseline predictors of treatment gains in propulsive force in individuals poststroke. Stroke Education Conference, Delaware Academy of Medicine, 2015 (*Best Poster Presentation Award*)

**Zabielski T, Hsiao H, and Binder-Macleod SA.** Peak vs. force-time Integral: Which measurement is most appropriate in assessing gait in individuals post-stroke? Undergraduate Summer Scholars Research Symposium, University of Delaware, 2015

**Gordon C, Palmer JA, Hsiao H, and Binder-Macleod SA.** The role of cortical input to the lower extremity in walking performance in individuals post-stroke. Undergraduate Summer Scholars Research Symposium, University of Delaware, 2015

## **RESEARCH FUNDING**

### Active Funding

**NIH R21:** Neuromuscular and Biomechanical Control of Weight Transfer in Individuals Post-Stroke.  
8/4/2022-7/31-2024

Role: PI \$420,475

**University of Texas College of Education Small Grant Award:** Combining Tai-Chi Exercise with Perturbation to Improve Balance Function in Aging

Role: PI 1/6/2023 - 8/31-2024 \$5,000

### Proposals In Review/Re-submission

**NIH R01:** Biomechanical Mechanism Underlying Perturbation-Base Tai Chi Effect on Dynamic Stability in Older Adults

Role: Co-PI (1<sup>st</sup> round scored 46<sup>th</sup> percentile)

### Completed

**NIH R21:** Neuromuscular and Biomechanical Control of Lower Limb Loading in Individuals with Chronic Stroke. (September.01.2018 to May.31.2021)

Role: Co-I \$424,875

**University of Texas College of Education Small Grant Award:** Improving Weight Bearing during Gait via Biofeedback in Individuals Post-stroke

Role: PI \$10,000

**University of Texas College of Education Small Grant Award:** Reactive limb loading responses during diagonal stance in individuals post-stroke

Role: PI \$10,000

**University of Texas College of Education Summer Research Assignment:** Medio-lateral treadmill perturbation during gait in persons with chronic stroke (July.1.2019 to August.31.2019)

Role: PI

**VA Maryland Exercise and Robotics Center of Excellence Pilot Awards:** Biomechanical Mechanisms of Lower Limb Loading During Forced Rapid Weight Transfer in Individuals Post-stroke.

(January.3.2017 to January.2.2018)

Role: PI \$20,000

## **TEACHING EXPERIENCES**

Biomechanical Analysis of Movement. Spring 2021 - present

Applied Biomechanics of Human Movement. Spring 2020

Proposal Writing. Fall 2019, Fall 2020, Spring 2022

Biomechanics in Clinical Settings. Spring 2019

Biomechanical Laboratory Techniques. Fall 2018

Review of Newtonian concepts lab. Oct. 2016

Tissue mechanics lab. Oct. 2016

Neuromuscular II - Seminar Readings and Discussion. Apr. 2017.

Tissue mechanics lab. Sept. 2017

## **MENTORSHIP**

## MENTEE

PhD Dissertation: Forouzan Foroughi, University of Texas at Austin, 2020-present

PhD Dissertation: Keng-Hung Shen, University of Texas at Austin, 2019-present

PhD Dissertation: Donald Prible, University of Texas at Austin, 2019-present

PhD Dissertation: Soroosh Sadeh, University of Texas at Austin, 2018-present

Master's Thesis:: Talieh Jannesar, University of Texas at Austin, 2022-present

Master's Thesis: Jacob Smith, University of Texas at Austin, 2022-present

Master's Thesis: Shun Nakamura, University of Texas at Austin, 2022-present

Master's Thesis: Jason Tsai, University of Texas at Austin, 2023-present

Master's Thesis: Troilyn Jackson, University of Texas at Austin, 2020

Master's Thesis: Edward Williams, University of Texas at Austin, 2019

Master's Thesis: Mariah Smither, University of Texas at Austin, 2019

Master's Thesis: Aaron Simmons, University of Texas at Austin, 2019

Dissertation Projects: Woohyoung Jeon, University of Texas at Austin, 2018.

Dissertation Projects: Geoffrey Futch, University of Texas at Austin, 2018.

Senior Thesis: Thomas Zabielski, University of Delaware, 2015.

## UNDERGRADUATE RESEARCHERS

Isabel Gonzales (KHE), Divjot S Walia (ME), David Zhang (ME), Arnav Monhanty ( Health Science Scholars honors program Capstone Thesis)

## **SERVICE**

### GRANT REVIEWING

NIH R15 Academic Research Enhancement Award (AREA) and the Research Enhancement Awards Program (REAP), Musculoskeletal, Oral and Skin Sciences IRG.

External scientific grant reviewer for the University of Maryland, Baltimore's (UMB), Institute for Clinical and Translational Research (ICTR) Accelerated Translational Incubator Pilot (ATIP) Grant Program.

### MANUSCRIPT REVIEWING

Frontiers in Rehabilitation Sciences (Associate Editor)

Neurorehabilitation and Neural Repair,

Journal of Biomechanics,

Journal of Neurologic Physical Therapy,

Gait and Posture,

Journal of NeuroEngineering and Rehabilitation,

PLoS One,

IEEE Transactions on Neural Systems and Rehabilitation Engineering,

Brain Sciences,

Journal of Aging and Physical Activity.

Archives of Physical Medicine and Rehabilitation

Clinical Neuroscience

Medicine & Science in Sports & Exercise

### COMMITTEE

Dean's Promising Scholars Committee, 2024

Alderson Lecture and Awards Celebration Committee, 2024

McCraw (Chair), 2022, 2023

Exercise Physiology Faculty Search Committee, 2023

University IRB Committee, 2020 - present



Graduate Studies Committee, 2018-present  
HBHE Faculty Search Committee, 2022  
Faculty Merit Committee, 2020  
Subvention Committee, 2020, 2021, 2022  
MCRS Faculty Search Committee, 2018-2021

Dissertation Committee: Shabnam Lateef, Department of Physical Therapy and Rehabilitation Science, University of Maryland Baltimore, 2023  
Dissertation Committee: Xin Yu, Department of Kinesiology and Health Education, University of Texas at Austin, 2022  
Dissertation Committee: Huiying Zhu, Department of Kinesiology and Health Education, University of Texas at Austin, 2022  
Dissertation Committee: Mohsen Alighanbari, Department of Kinesiology and Health Education, University of Texas at Austin, 2022  
Dissertation Committee: Ross Newman, Department of Biomedical Engineering, University of Texas at Austin, 2022  
Dissertation Committee: Ruth Akinlosotu, Department of Physical Therapy and Rehabilitation Science, University of Maryland Baltimore, 2022  
Dissertation Committee: Emily Dunlap, Department of Kinesiology and Health Education, University of Texas at Austin, 2021  
PhD Qualification Committee: Kyoungsoon Kim, Department of Mechanical Engineering, University of Texas at Austin, 2021  
Dissertation Committee: Wentao Li, Department of Biomedical Engineering, University of Texas at Austin, 2021  
Dissertation Committee: Soroosh Sadeh, Department of Kinesiology and Health Education, University of Texas at Austin, 2021  
Dissertation Committee: Timothy Lowe, Department of Kinesiology and Health Education, University of Texas at Austin, 2021  
Dissertation Committee: Venkata Suresh Rayudu, Department of Electrical and Computer Engineering, University of Texas at Austin, 2020  
Dissertation Committee: Woohyoung Jeon, Department of Kinesiology and Health Education, University of Texas at Austin, 2019  
PhD Qualification Committee: Sz-Yan Wu, Department of Kinesiology and Health Education, University of Texas at Austin, 2019  
Dissertation Committee: Zhong Wang, Department of Kinesiology and Health Education, University of Texas at Austin, 2019  
Dissertation Committee: Christie Powell, Department of Kinesiology and Health Education, University of Texas at Austin, 2019

Master Thesis/Report Reader: Jie Yang (2023), Jonah Rosner (2021), Lingfeng Chen (2020).

### **PROFESSIONAL MEMBERSHIPS**

American Heart Association,  
American Society of Biomechanics,  
International Society of Posture and Gait Research