

## Curriculum Vitae

## SZU-HUA TERESA CHEN



szuhuac@uoregon.edu



teresashchen



ptteresachen

As a physical therapist, I aim to develop my career in the direction of mobility impairment research with translational applications to patient care or exercise performance. My current research focuses on age-related declines in cognitive and physical functions and their contributions to gait imbalance, ultimately leading to new rehabilitation interventions.

## EDUCATION

2015	<b>Ph.D. in Human Physiology, University of Oregon</b>	
2019	<ul style="list-style-type: none"> <li>Dissertation: Effects of Fatigue on Balance Control During Dual-task Walking</li> <li>Emphases: Biomechanics, Motion Analysis, Balance Control</li> </ul>	
2010	<b>M.S. in Physical Therapy, National Taiwan University</b>	
2012	<ul style="list-style-type: none"> <li>Thesis: Extensibility of the Gastrocnemius Muscle-Tendon Unit After Different Static Stretching Techniques Using Ultrasonography</li> <li>Emphases: Orthopedic Rehabilitation, Sports Physical Therapy, Ultrasonography</li> <li>Service Excellence Award</li> </ul>	
2006	<b>B.S. in Physical Therapy, National Taiwan University</b>	
2010	<ul style="list-style-type: none"> <li>Academic Excellence Award (six times)   Outstanding Clinical Internship Award</li> </ul>	

## BRIEF PROFESSIONAL HISTORY

2015		
2019	<b>Graduate Employee, University of Oregon</b>	Eugene
	<b>Deputy Secretary, Taiwan Physical Therapy Association</b>	Taipei
2015	<ul style="list-style-type: none"> <li>Initiated a collaborative proposal in physical therapy development with 200+ physical therapists, collaborated with staff in execution of national academic conferences, administered publication of Formosan Journal of Physical Therapy</li> </ul>	
2013	<b>Physical Therapist, National Sports Training Center/ Chinese Taipei Olympic Committee</b>	Kaohsiung
2014	<ul style="list-style-type: none"> <li>Implemented preventive programs, applied protective devices, developed and carried out rehabilitation program, assisted in participation of international meets</li> </ul>	
2012	<b>Project Manager, Startup Company</b>	Taipei
2013	<ul style="list-style-type: none"> <li>Monitored development of medical products, coordinated with researchers, physicians and manufacturers to conduct clinical studies</li> </ul>	
2011	<b>Graduate Teaching Assistant, National Taiwan University</b>	Taipei
2009	<b>Undergraduate Research Assistant, National Taiwan University</b>	Taipei

## LICENSURE &amp; CERTIFICATION

<b>Physical Therapist</b>	New York State Education Department, NY	2016-present
	Ministry of Education, Taiwan	2010-present
<b>Certified BLS for Healthcare Providers</b>	American Heart Association	2017-present

## Scholarship

### AWARDS & HONORS

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2019	Ursula (Sue) Moshberger Scholarship, <i>Human Physiology, University of Oregon</i>
2018	Ursula (Sue) Moshberger Scholarship, <i>Human Physiology, University of Oregon</i>
2018	Outstanding Reviewer, <i>Gait &amp; Posture</i>
2017	Student Travel Award, <i>ACSM Biomechanics Interest Group</i>
2016-2018	Government Fellowship for Studying Abroad, <i>Ministry of Education, Taiwan</i>
2015-2019	Graduate Teaching Fellowship, <i>University of Oregon</i>

### GRANTS

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#### Awarded

2017 Professional Training Opportunities Program, *Northwest Center for Occupational Health and Safety* (**Role:** Principal Investigator) \$5,805

Not awarded

2018 The DLF Research Scholarship, *The De Luca Foundation* (Principal Investigator)

### PUBLICATIONS

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#### Peer Reviewed Journal Articles

- [4] Tsai, Y.-J., Hsu, J.-C., Lin F.-Y., **Chen, S.-H.** and Chai, H.-M. (2019). Effect of Triceps Surae Taping on Vertical Jump. *Formosan Journal of Physical Therapy*, 44(1), 29-36. (In Mandarin)
- [3] **Chen, S.-H.**, Lo, O.-Y., Kay, T., & Chou, L.-S. (2018). Concurrent Phone Texting Alters Crossing Behavior and Induces Gait Imbalance During Obstacle Crossing. *Gait & Posture*, 62, 422–425.
- [2] **Chen, S.-H.** and Chai, H.-M. (2017). The Role of Physical Therapy in Sports Performance. *Formosan Journal of Medicine*, 21(3), 268-275. (In Mandarin)
- [1] Catena, R.D., **Chen, S.-H.**, & Chou, L.-S. (2017). Does the Anthropometric Model Influence Whole-Body Center of Mass Calculations in Gait? *Journal of Biomechanics*, 59, 23-28.

#### Book

- [1] Extensibility of the Gastrocnemius Muscle-Tendon Unit After Different Static Stretching Techniques Using Ultrasonography (2012). [**master thesis**]

#### Manuscripts in Review/Preparation

- [5] **Chen, S.-H.** & Chou, L.-S. Can Fatigue Affect Inter-Joint Coordination Variability? (In Preparation)
- [4] **Chen, S.-H.** & Chou, L.-S. Gait Balance Control After Fatigue: Effects of Age and Cognitive Demand. (In Preparation)
- [3] **Chen, S.-H.** & Chou, L.-S. Older Is Not Always Worse: Balance Control and Working Memory Performance During Obstacle-Crossing After Fatigue. (In Preparation)
- [2] Pitt, W., **Chen, S.-H.**, and Chou, L.-S. (2019) Using IMU-Based Biomechanical Markers to Monitor Gait Balance Control Recovery in Acutely Concussed Individuals. *Clinical Biomechanics*. (In Review)
- [1] Pitt, W., **Chen, S.-H.**, Davidson, C, Stowell, C, and Chou, L.-S. (2019) Sensitivity and Specificity of IMU and Neurocognitive Measures to Detect Post-Concussion Gait Imbalance in Dual-Task Walking. *American Journal of Sports Medicine*. (In Review)

## PRESENTATIONS

### Podium Presentation (\* indicates mentee)

- [6] **Chen, S.-H.** and Chou, L.-S. (2018, May). Fatigue Affects Balance Control Differently During Single- and Dual-Task Walking in Older Workers. *14th Annual Northwest Biomechanics Symposium* (Bellingham, WA).
- [5] **Chen, S.-H.** and Chou, L.-S. (2017, October). Effects of Working Memory and Muscle Fatigue on Dynamic Gait Balance Control in Older Workers. *2017 Northwest Occupational Health Conference* (Spokane, WA).
- [4] Chou, L.-S., **Chen, S.-H.** & Lo, O.-Y. (2017, June). Concurrent Phone Texting Alters Crossing Behavior and Induces Gait Imbalance during Obstacle Crossing. *World Congress of International Society of Posture and Gait Research* (Lauderdale, FL).
- [3] **Chen, S.-H.**, Taylor, J.\* & Chou, L.-S. (2017, May). Lower Limb Muscle Fatigue Perturbs Gait Balance during Dual-Task Walking. *ACSM's 64th Annual Meeting* (Denver, Colorado)
- [2] **Chen, S.-H.**, Lo, O.-Y., Kay, T., & Chou, L.-S. (2016, July). Effect of Smartphone Texting on Gait Characteristics During Obstacle Crossing. *XIV International Symposium on 3D Analysis of Human Movement* (Taipei, Taiwan).
- [1] **Chen, S.-H.**, Chai, H.-M., Jhu, J.-L., & Wang, S.-F. (2009, March). Contraction Ability of Transversus Abdominis in Elite Fin Swimmers. *The 58<sup>th</sup> Academic Conference of the Physical Therapy Association of ROC (Taiwan)* (Taipei, Taiwan)

### Poster Presentation (\* indicates mentee)

- [8] **Chen, S.-H.** and Chou, L.-S. (2019, July). A Preliminary Investigation on Gait Balance Control after Fatigue: Effects of Age and Cognitive Demand. *43th Annual Conference of the American Society of Biomechanics* (Calgary, Canada).
- [7] **Chen, S.-H.**, Taylor, J. \*, & Chou, L.-S. (2018, August). Fatigue Affects Balance Control Differently During Single- and Dual-Task Walking in Older Workers. *42th Annual Conference of the American Society of Biomechanics* (Rochester, MN).
- [6] **Chen, S.-H.**, Taylor, J. \*, & Chou, L.-S. (2017, August). Lower Extremity Muscle Fatigue Changes Obstacle-Crossing Behaviors and Working Memory Performance. *41th Annual Conference of the American Society of Biomechanics* (Boulder, CO).
- [5] **Chen, S.-H.**, Taylor, J. \*, & Chou, L.-S. (2017, June). Effect of Muscle Fatigue on Gait Balance Control During Dual-Task Walking. *World Congress of International Society of Posture and Gait Research* (Lauderdale, FL).
- [4] Smith, S.\*, **Chen, S.-H.**, & Chou, L.-S. (2017, May). Effects of Lower Extremity Muscle Fatigue on Dual-Task Obstacle-Crossing in Active and Inactive Young Adults. *13th Annual Northwest Biomechanics Symposium* (Eugene, OR).
- [3] Taylor, J. \*, **Chen, S.-H.**, & Chou, L.-S. (2017, May). Lower Extremity Muscle Fatigue Changes Gait Control and Working Memory Performance in Both Single- and Dual-Tasks. *13th Annual Northwest Biomechanics Symposium* (Eugene, OR).
- [2] **Chen, S.-H.** and Chai, H.-M. (2012, September). Intrarater Reliability of Measurement of Tissue Length of Gastrocnemius Musculotendinous Unit Using Panoramic Ultrasonography. *The 65<sup>th</sup> Academic Conference of the Physical Therapy Association of ROC (Taiwan)* (Kaohsiung, Taiwan).
- [1] Lin, S.-J., **Chen, S.-H.**, Chai, H.-M., Jan, M.-H., Jiang, C.-C. Effects of proprioceptive neuromuscular facilitation stretching technique on knee joint function in people following unilateral total knee arthroplasty. *The 16<sup>th</sup> International the World Confederation for Physical Therapy Congress* (Amsterdam, Netherland).

## Professional Presentations

- [2] Effects of Fatigue on Balance Control: An Occupational Biomechanics Study. (2018, April). *National Biomechanics Day, University of Oregon.*
- [1] Application of Biomechanics on Industrial Design. (2017, July). *Tatung University, Taiwan.*

## RESEARCH PACKAGES

Proficient	SPSS, G*power, Motion Analysis, Cortex, Dynamometer, Microsoft Office Suite, Zotero, Cognitive Test, SuperLab, Biodex, R & Rstudio, Ultrasonography
Familiar	Matlab, SPSS Amos, Visual 3D, Git & Github, Electromyography

## Teaching

### MENTORING

2015	• <b>Jocelyn Taylor</b> , <i>Department of Biology, University of Oregon</i>
2017	Grant: Undergraduate Research Opportunity Program, <i>University of Oregon</i> , \$1,000
2017	• <b>Spencer Smith</b> , <i>Department of Human Physiology, University of Oregon</i>
2019	Grant: Undergraduate Research Opportunity Program, <i>University of Oregon</i> , \$1,000 Center of Undergraduate Research and Engagement Travel Award, <i>University of Oregon</i>

### COURSES TAUGHT

*University of Oregon, Eugene, OR* (average teaching effective score: 4.8/5)

#### Human Anatomy (HPHY321, HPHY323, HPHY325)

• Instructor of record	2019 Summer
• Coordinator of Teaching Assistants	2018-2019
• Lab Facilitator + Tour Leader	2017-2018
• Assignment Coordinator	2015-2017
• Lab Instructor	2015-2019

*Hungkuang University, Taichung, Taiwan*

#### Orthopedic Physical Therapy

• Instructor of record	2015
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*National Taiwan University, Taipei, Taiwan*

#### Biomechanics, Kinesiology, Surface Anatomy, Elastic-Adhesive Taping

• Teaching Assistant	2010-2012
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### CLINICAL PRECEPTOR

Athletic Trainer, <i>National Training Center, Taiwan</i>	2013-2014
Student Physical Therapist, <i>Women Basketball Team, National Taiwan University</i>	2012-2013

## Services

### SELECTED SERVICES

#### Editorial Service

<i>Ad-Hoc</i> Reviewer, <i>Gait &amp; Posture</i>	2018-present
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#### Institutional Service

Undergraduate Academic Advisor, <i>University of Oregon</i>	2018
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Laboratory Safety Committee, *University of Oregon*

2018-2019

**Extracurricular Service**Co-founder of SKY@UO, *University of Oregon*

2018-2019

**Physical Therapist**Swimming, *Li-Yuan Elementary School, New Taipei, Taiwan*

2015

Women Basketball Team, *National Taiwan University, Taiwan*

2012-2013

Track & Field Team, *National Taiwan University, Taiwan*

2011-2012

**PROFESSIONAL ASSOCIATIONS**

Member	American Society of Biomechanics	2016-present
Member	American College of Sports Medicine	2016-present
Member	International Society of Posture and Gait Research	2017-present

*Professional Development***ADDITIONAL COURSEWORK**

Statistics		
	Educational Statistics ( <i>EDUC614, University of Oregon</i> )	Winter 2016
	Apply Statistic Design & Analysis ( <i>EDUC640, University of Oregon</i> )	Spring 2016
	Multiple Regression ( <i>EDUC642, University of Oregon</i> )	Fall 2017
	Apply Multivariate Analysis ( <i>EDUC644, University of Oregon</i> )	Winter 2018
	Hierarchical and Mixed Effects ( <i>DataCamp</i> )	Fall 2018
Neuroscience		
	Learning & Memory ( <i>PSY533, University of Oregon</i> )	Fall 2016
	Movement Disorders ( <i>HPHY534, University of Oregon</i> )	Winter 2017
Data Science		
	Introduction to Data Science with R ( <i>EDLD610, University of Oregon</i> )	Fall 2018
	Communicating and Transforming Data ( <i>EDLD610, University of Oregon</i> )	Winter 2019
	Functional Programming with R ( <i>EDLD610, University of Oregon</i> )	Spring 2019

**WORKSHOP ATTENDED**

Research	2018	Instructor Training: Tai Ji Quan: Moving for Better Balance® (TJQMBB), <i>Oregon Research Institute</i>
Teaching	2018	Teaching Academy, <i>Department of Human Physiology, UO</i>
Teaching	2017	Teaching Academy, <i>Department of Human Physiology, UO</i>
Teaching	2017	Teaching Academy, <i>Department of Human Physiology, UO</i>
Teaching	2016	Teaching Academy, <i>Department of Human Physiology, UO</i>
Research	2016-2018	Neurophysiology Journal Club, <i>Department of Human Physiology, UO</i>
Teaching	2015	Teaching Academy, <i>Department of Human Physiology, UO</i>
Research	2015-2018	Biomechanics Journal Club, <i>Department of Human Physiology, UO</i>