

Curriculum Vitae

SZU-HUA TERESA CHEN



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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, as well as on impact-induced sports injuries, ultimately leading to new rehabilitation interventions.

ACADEMIC POSITION

2020 August present	Assistant Professor, Ithaca College Department of Physical Therapy School of Health Sciences and Human Performance	Ithaca, NY
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EDUCATION

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

BRIEF PROFESSIONAL HISTORY

2015 2019	Graduate Employee, University of Oregon	Eugene
	Deputy Secretary, Taiwan Physical Therapy Association	Taipei
2015	<ul style="list-style-type: none"> 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 	
2013 2014	Physical Therapist, National Sports Training Center/ Chinese Taipei Olympic Committee <ul style="list-style-type: none">Implemented preventive programs, applied protective devices, developed and carried out rehabilitation program, assisted in participation of international meets	Kaohsiung
2012 2013	Project Manager, Startup Company <ul style="list-style-type: none">Monitored development of medical products, coordinated with researchers, physicians and manufacturers to conduct clinical studies	Taipei
2011	Graduate Teaching Assistant, National Taiwan University	Taipei

LICENSURE & CERTIFICATION

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

Scholarship

AWARDS & HONORS

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 & 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

Awarded

2017	Professional Training Opportunities Program, <i>Northwest Center for Occupational Health and Safety (Role: Principal Investigator)</i> \$5,805
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Not awarded

2018	The DLF Research Scholarship, <i>The De Luca Foundation</i> (Principal Investigator)
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PUBLICATIONS

Peer Reviewed Journal Articles

- [5] Pitt, W., **Chen, S. H.**, & Chou, L. S. (2020). Using IMU-based kinematic markers to monitor dual-task gait balance control recovery in acutely concussed individuals. *Clinical Biomechanics*, 105145.
- [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.**, Tan C.-L. A., Hsieh C.-A., Chen, P.-H., Wang, K.-p., Chai, H.-M. Reliability of Stiffness Measurement of Iliotibial Band and Tensor Fascia Lata Using Shear-wave Elastography. (In Preparation)
- [4] **Chen, S.-H.** & Chou, L.-S. Can Fatigue Affect Inter-Joint Coordination Variability? (In Preparation)
- [3] **Chen, S.-H.** & Chou, L.-S. Gait Balance Control After Fatigue: Effects of Age and Cognitive Demand. (In Preparation)
- [2] **Chen, S.-H.** & Chou, L.-S. Older Is Not Always Worse: Balance Control and Working Memory Performance During Obstacle-Crossing After Fatigue. (In Preparation)
- [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 58th Academic Conference of the Physical Therapy Association of ROC (Taiwan)* (Taipei, Taiwan)

Poster Presentation (* indicates mentee)

- [10] **Chen, S.-H.** and Chou, L.-S. (2020, August). Inter-joint Coordination Variability When Fatiguing With the Use of a Repetitive Sit-to-Stand Task. *44th Annual Conference of the American Society of Biomechanics* (virtual).
- [9] **Chen, S.-H.** and Chou, L.-S. (2020, August). Gait Balance Control After Fatigue: Effects of Age and Cognitive Demand. *44th Annual Conference of the American Society of Biomechanics* (virtual).
- [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. *43rd 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. *42nd 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. *41st 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 65th 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 16th 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

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| 2015 | • Jocelyn Taylor , <i>Department of Biology, University of Oregon</i> |
| 2017 | Grant: Undergraduate Research Opportunity Program, <i>University of Oregon</i> , \$1,000 |
| 2017 | • Spencer Smith , <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)

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| • 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

National Taiwan University, Taipei, Taiwan

Biomechanics, Kinesiology, Surface Anatomy, Elastic-Adhesive Taping

- Teaching Assistant 2010-2012

CLINICAL PRECEPTOR

Athletic Trainer, *National Training Center, Taiwan* 2013-2014

Student Physical Therapist, *Women Basketball Team, National Taiwan University* 2012-2013

Services

SELECTED SERVICES

Editorial Service

Ad-Hoc Reviewer, Clinical Biomechanics 2020-present

Ad-Hoc Reviewer, Gait & Posture 2018-present

Institutional Service

Undergraduate Academic Advisor, *University of Oregon* 2018

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 (*EDUC614, University of Oregon*) Winter 2016

Apply Statistic Design & Analysis (*EDUC640, University of Oregon*) Spring 2016

Multiple Regression (*EDUC642, University of Oregon*) Fall 2017

Apply Multivariate Analysis (*EDUC644, University of Oregon*) Winter 2018

Neuroscience	Hierarchical and Mixed Effects (<i>DataCamp</i>)	Fall 2018
	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

Teaching	2020	Summer Teaching Institute, <i>Ithaca College</i>
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>