Curriculum Vitae

LI-SHAN CHOU, Ph.D.

PERSONAL INFORMATION

Work Address:
Department of Health and Kinesiology
Purdue University
Lambert Fieldhouse
800 West Stadium Avenue
West Lafayette, IN 47907-2046

PRESENT ACADEMIC RANK AND POSITION

Professor and Head, Department of Health and Kinesiology, Purdue University
Fellow, American Society of Biomechanics
Fellow, National Academy of Kinesiology

EDUCATION

Ph.D., Mechanical Engineering; 1995
University of Illinois at Chicago, Chicago, Illinois
Dissertation: Measurements and Predictions of Obstructed and Unobstructed Gait
Advisors: Louis F. Draganich, PhD (University of Chicago) and Shin-Min Song, PhD

MS., Mechanical Engineering; 1990
University of Illinois at Chicago, Chicago, Illinois
Thesis: Geometric Work of Manipulators and Path Planning Based on Minimum Energy Consumption
Advisor: Shin-Min Song, PhD

B.S., Mechanical Engineering; 1987
Tatung Institute of Technology, Taipei, Taiwan, R.O.C.

HONORS/AWARDS

National Research Service Award (T32), National Institute of Child Health and Human Development (1997)
National Research Service Award (F32), National Institute on Aging (1999)
American Society of Biomechanics Travel Award (2001)
University of Oregon Summer Research Award (2002)
Best Paper Award, Gait and Clinical Movement Analysis Society (2002)
Excellent Paper Award of the 2nd World Congress of Chinese Biomedical Engineers (2004)
Hanyang/University of Oregon Faculty Exchange Award (2006)
Excellence in Clinical Research, the Sacred Heart Medical Center Foundation and the PeaceHealth Oregon Region (2007)
The Fund for Faculty Excellence, University of Oregon (2008)

UO-PeaceHaelth Translational Research Award (2010)
Richard A. Bray Faculty Fellowship, University of Oregon (2011)
Liberty Mutual Research Center for Safety Visiting Scholarship (2012)
Tokyo University of Science President Award (2013)
Faculty Research Award, University of Oregon (2015)
Outstanding Faculty Leadership Award, Center for Multicultural Academic Excellence, University of Oregon (2015)
Fellow, American Society of Biomechanics (2019)
Distinguished Alumni Award, Tatung University, Taiwan (2019)
Iowa State University Award for Early Achievement in Department Leadership (2021)
ACSM Biomechanics Interest Group Motion Analysis Career Achievement Award (2024)
Fellow, National Academy of Kinesiology (2025)

PROFESSIONAL POSITIONS AND APPOINTMENTS

Teaching Assistant, Department of Mechanical Engineering, Tatung Institute of Technology, Taipei, Taiwan, R.O.C., 1987-1988
Graduate Research Assistant, Department of Mechanical Engineering, University of Illinois at Chicago, Chicago, Illinois, 1989-1990
Graduate Teaching Assistant, Department of Mechanical Engineering, University of Illinois at Chicago, Chicago, Illinois, 1990-1991
Senior Research Technologist, Motion Analysis Laboratory, Section of Orthopedic Surgery and Rehabilitation Medicine, Department of Surgery, University of Chicago, Chicago, Illinois, 1991-1995
Research Associate, Motion Analysis Laboratory, Section of Orthopedic Surgery and Rehabilitation Medicine, Department of Surgery, University of Chicago, Chicago, Illinois, 1995-1997
Research Fellow & Senior Research Fellow, Biomechanics Laboratory, Department of Orthopedic Surgery, Mayo Clinic and Mayo Foundation, Rochester, Minnesota, 1997-2000
Instructor of Bioengineering, Mayo Medical School, Rochester, Minnesota, 1998-2000
Instructor of Audiology, Mayo Medical School, Rochester, Minnesota, 1999
Assistant Professor of Bioengineering, Mayo Medical School, Rochester, Minnesota, 2000
Visiting Scientist, Department of Otorhinolaryngology, Mayo Clinic/Foundation, Rochester, Minnesota, Summer 2001
Assistant Professor, Department of Human Physiology, University of Oregon, 2000 – 2006
Visiting Associate Professor, Institute of Biomedical Engineering, National Cheng-Kung University, Tainan, Taiwan, 12/1/2007-3/18/2008
Associate Professor, Department of Human Physiology, University of Oregon, 2006 – 2012
Visiting Scholar, Liberty Mutual Research Institute for Safety, Hopkinton, MA, 6/23/2012-9/22/2012
Professor, Department of Human Physiology, University of Oregon, 2012 – 2019
Department Head, Department of Human Physiology, University of Oregon, 8/2014 - 12/2018
Honorary Chair Professor, Department of Physical Education, National Tsing Hua University, Taiwan, 2017 – 2020
Adjunct Professor, Physical Education Institute, Shaanxi Normal University, China, 2018 – 2021
Adjunct Professor, Graduate Institute of Design Science, College of Design, Tatung University, Taiwan
Professor and Chair, Department of Kinesiology. Iowa State University, 2019-2025
Professor and Head, Department of Health and Kinesiology, Purdue University, 7/1/2025 - now

PROFESSIONAL MEMBERSHIPS AND SOCIETIES

American Society of Biomechanics
International Society of Biomechanics
International Society for Posture and Gait Research
American College of Sports Medicine
World Association for Chinese Biomedical Engineers
Taiwanese Society of Biomechanics
Taiwan Society of Movement Science and Technology
ISB Technical Group for 3D-Analysis of Human Movement (President, 2018-2020)

CLINICAL PRACTICE, INTERESTS, AND ACCOMPLISHMENTS

Clinical gait analysis and dynamic balance assessment in the elderly and patients with neuromuscular, musculoskeletal, vestibular disorders, or brain injury

RESEARCH INTERESTS

Human Movement Analysis, Rehabilitation Engineering, Sports Medicine, Posture and Balance Control/Aging, Functional Assessment following Brain Injury, Wearable Sensors, Machine Learning

PROFESSIONAL/INSTITUTIONAL/DEPARTMENTAL SERVICES, ADMINISTRATIVE RESPONSIBILITIES, COMMITTEE MEMBERSHIPS AND OTHER ACTIVITIES

Editorial Board/Book Editor

Editor-in-Chief, Gait and Posture (2025- present)
Co-Editors-in-Chief, World Scientific Annual Review of Biomechanics (2022- present)
Section Editor, Archives of Physical Medicine and Rehabilitation (2010 - present)
Associate Editor, Biomedical Engineering: Applications, Basis, and Communications (2015-present)
Associate Editor, Journal of Mechanics in Medicine and Biology (2019-present)
Editorial Board Member, Physical Education Journal, R.O.C.N.S.P.E (2023-present)
Deputy Editor, Gait and Posture (2022-24)
Associate Editor, Gait and Posture (2017- 22)
Co-Editors, Gait and Posture Virtual Special Issue "Clinical Impact of Instrumented Motion Analysis," 2020
Co-Editors-in-Chief (North America), Journal of Musculoskeletal Research (2015 - 18)
Editorial Board Member, Gait and Posture (2014-17)
Editorial Board Member, Journal of Musculoskeletal Research (2009 -14)

Grant Reviewer

Ad-hoc Reviewer, Retinopathy Special Emphasis Panel, CB-G (90), National Institute of Health (06/2006)
Ad-hoc Reviewer, Institute of Biomedical Imaging and Bioengineering (NIBIB) Point-of-Care Technologies, National Institute of Health (07/2007)
Ad-hoc Reviewer, National Institute on Aging Special Emphasis Panel (ZAG1 ZIJ-1 (O1)) (8/2009)

Initial Review Group Panel, National Center for Injury Prevention and Control, Centers for Disease Control and Prevention (2005, 2008, 2012)
National Science Foundation: Integrative Animal Biology (2004); International Research Fellowship Program (2009)
Scientist Reviewer, Congressionally Directed Medical Research Programs, Deployment Medical Research Program ATTD-PHTBI-6 (12/2008)
Teleconference Reviewer, VA/War-Related Illness & Injury Study Center (5/2010)
The NATA Foundation Research Committee (2001-2003, 2005, 2006, 2009, 2010)
Canada Foundation for Innovation (2009)
Natural Sciences and Engineering Research Council of Canada (2015; 2016)
Missouri Life Sciences Research Board (2009)
Agency for Science, Technology and Research (A*STAR) Biomedical Research Council (BMRC) in Singapore (2008)
External Reviewer, Research Grants Council, Hong Kong (2010; 2011; 2012; 2013; 2018)
Reviewer, Austrian Science Fund (2010)
Reviewer, The Israel Science Foundation (2011)
Reviewer, Kansas Medical Center Review (2011)
Reviewer, Army Rapid Innovation Fund, American Institute of Biological Sciences (2012; 2013)
Reviewer, Pac-12 Student-Athlete Health & Well-Being Grant Program (2015)
Co-Chair, National Institute of Health, MOSS-V(15) Special Emphasis Panel on Musculoskeletal Rehabilitation Small Business (11/19/2015)
Reviewer, The Netherlands Organization for Health Research and Development (2016)
Scientific Reviewer, Orthopaedic Research Program, US Army Medical Research and Materiel Command (USAMRMC), Congressionally Directed Medical Research Programs (CDMRP) (2017)
Ad-hoc Reviewer, National Institute of Health, Small Business: Neurological Bioengineering and Technology (7/2020)
Ad-hoc Reviewer, National Institute of Health, Musculoskeletal Rehabilitation Sciences Study Section (6/2010; 2/2013; 2/2014; 6/2015; 2/2018; 6/2018; 2/2022)
Reviewer and Co-Chair, National Institute of Health, ZRG1 F10B-B (20) Fellowships: Musculoskeletal, Rehabilitation and Skin Sciences (11/2020; 3/2021; 6/2021; 11/2021)
Reviewer and Co-Chair, National Institute of Health, ZRG1 MOSS-B (82)A R15 AREA and REAP: Musculoskeletal, Oral, Skin, Rheumatology and Rehabilitation Sciences (11/2020; 3/2021; 6/2021; 11/2021)
Reviewer, Canada Research Chairs (2024)
Reviewer, Canada New Frontiers in Research Fund -Transformation (2024)
Ad-hoc Reviewer, National Institute of Health, ZRG1 F16-D (20) Fellowship: Clinical Care and Health Interventions (5/2025)

National and International Services

Section Co-chair, the 13th International Conference on Mechanics in Medicine and Biology, Nov 12-15, 2003, Tainan, Taiwan.
Member of the Standards Committee, the Gait and Clinical Movement Analysis Society, 2004-2007.
Section Moderator, 2004 Annual Meeting of the American Society of Biomechanics, Portland, OR, September 8-11, 2004.
Member of the Advisory Board of Directors, International Institute for Sports and Human Performance, 2005-2006.

Conference Chair, the 3rd Northwest Biomechanics Symposium (ASB NW Regional Meeting), May 18-19, 2007.
Member of Scientific Advisory Committee and Section Moderator, XIth International Symposium on Computer Simulation in Biomechanics, June 28-30, 2007.
Member of International Scientific Advisory Committee and Section Moderator, International Society of Biomechanics XXI Congress, July 1- 5, 2007.
Section Moderator, 2007 Annual Meeting of the American Society of Biomechanics, Stanford University, CA, August 22-25, 2007.
Program Committee Member, the 4th North American Congress on Biomechanics, Ann Arbor, Michigan, August 5-9, 2008.
Conference abstract reviewer for the Annual Meeting of the American Society of Biomechanics, 2009.
Conference Co-Chair, the 2012 Northwest Biomechanics Symposium (ASB NW Regional Meeting), May 18-19, 2012.
Section Moderator, the 31st Conference of the International Society of Biomechanics in Sports, National Taiwan Normal University, Taipei, Taiwan, July 7-11, 2013.
Section Moderator, WCPT-AWP & ACPT Congress 2013, Taichung, Taiwan, September 5-9, 2013.
Member of the Program Committee, International Congress on Sports Science Research and Technology Support, Vilamoura, Algarve-Portugal, September 20-22, 2013.
Member of the Scientific Content Committee, the 2014 ISPGR meeting, Vancouver, BC, Canada.
Member of the Scientific Content Committee, the 2015 ISPGR meeting, Seville, Spain.
Chair, International Scientific Committee, XIV International Symposium on 3D Analysis of Human Movement, Taipei, Taiwan, July 18-21, 2016.
Member of the Program Committee, 2017 Annual Meeting of American Society of Biomechanics.
Section Chair, 2017 Annual Meeting of American Society of Biomechanics.
Conference abstract reviewer for the Gait and Clinical Movement Analysis Society (2004-present).
Member, Executive Committee for the ISB 3-D Analysis of Human Movement Technical Group (2017-2022).
President, ISB 3-D Analysis of Human Movement Technical Group (2018-2020).
Conference Chair, the 2021 (16th) International Symposium of 3-D Analysis of Human Movement (Virtual), May 25-28, 2021.
Conference abstract reviewer, the 2021 American Society of Biomechanics Annual Meeting (Virtual), August 10-13, 2021.
Member, Fellow Nomination Review Committee, American Society of Biomechanics (2021, 2022).
Section Moderator, Thematic Poster Section – Multitasking, the 2021 American Society of Biomechanics Annual Meeting (Virtual), August 10-13, 2021.
Panelist, DEI: Advocating for Change in Your Environment, the 2021 American Society of Biomechanics Annual Meeting (Virtual), August 10-13, 2021.
Member, Advisory Board for Biomedical Science & Engineering, the IEEE International Conference on Digital Health (ICDH), 2021, 2022.
Chair, Panel Discussion on "Advances in Biomedical Sciences and Engineering for Digital Health Care", the 2021 IEEE International Conference on Digital Health (ICDH), September 5-11, 2021.
Panelist, Forum on International Collaboration and Visibility, 2021 Annual Meeting of Taiwanese Society of Biomechanics, October 16, 2021.
Panelist, Panel Discussion on "Technology, Innovation & Partnership – From Lab to Home", the 2022 IEEE International Conference on Digital Health (ICDH), July 13 2022.

Co-Chair, International Scientific Committee, the 2022 World Congress on Biomechanics, July 10-14, 2022.
Conference abstract reviewer, the 2023 American Society of Biomechanics Annual Meeting, August, 2023.
Member, Scientific Committee, the 2023 Congress of International Society of Biomechanics, Fukuoka, Japan, July 30-August 3, 2023.
Member, Scientific Content Committee, International Society of Posture and Gait Research (ISPGR), 2023-24.
Member, Nominations Committee, International Society of Posture and Gait Research (ISPGR), 2024.
Conference abstract reviewer, the 2024 American Society of Biomechanics Annual Meeting, August 5-8, 2024.
Conference Co-Chair, the 2024 International Conference on Movement Science and Technology, Taipei, Taiwan, November 22-24, 2024.
Board Member, International Society of Posture and Gait Research (2024-28).
Co-Chair, External Relations Committee, International Society of Posture and Gait Research (2025-now)

Purdue University
Department Head, Department of Health and Kinesiology (7/2025 – now)

Iowa State University
Department Chair, Department of Kinesiology (2019 – 2025)
Dean's Cabinet, College of Human Sciences (2019 – 2025)
Member, Chairs Cabinet (2023 – 2025)
Member, Health-related Programs Steering Committee (2022 – 2023)
Co-Chair, Search Committee for the CHS Associate Dean for Research and Graduate Education, 2020
Member, Undergraduate Biomedical Engineering Program Task Force, 12/2020 - 5/2021
Member, Institutional Review Board, 7/1-12/31 2020

University of Oregon
Member of the Scholarship Committee, University of Oregon, 2006 - 2008
University Senate, University of Oregon, 2007 - 2009
Member of the Committee for the Protection of Human Subjects/Biomedical Institutional Review Board, University of Oregon, 2006 - 2012
Member of the CAS Curriculum Committee, 2010 – 2012 (representative to the Undergraduate Council, 2011-12)
Member of the Faculty Advisory Committee, Lewis Center for Neuroimaging, 2011- 2014
Member of the Graduate Council, University of Oregon, 2006 – 2009; 2013-2014
Member of the Faculty Personnel Committee, 2013-2014
Member of the Graduate School Associate Dean Search Committee, 2014
New Leader Panel Member, Provost's Academic Leadership Retreat, September 21, 2015
Panelist, Creating an Optimal Department Climate Workshop, November 5, 2015
Member, Divisional Dean for Social Sciences Search Committee, CAS, 2017.
Member, Science Space Advisory Group, 2016-2018
Department Head, Human Physiology, 2014-2018
Member, CAS Dean's Advisory Group (Wise Heads), 2017-2018

Member, Savage Endowment Review Committee, 2018-2019
Member, Study Abroad Science Department Advisory Committee, 2018-2019

Department of Human Physiology, University of Oregon
Undergraduate Student Advising, IntroDUCKtion 2001, 2002
Chair of search committee for the Orthopedic Biomechanics Position, 2001
Member of search committee for the Cardiovascular Physiology Position, 2001
Member of search committee for the Sports Medicine/Anatomy Instructor Position, 2001
Member of the Jan Broekhoff Graduate Scholarship review committee, 2003
Member for committee for Undergraduate Curriculum Reform, 2003
Member of search committee for the department office manager, 2003
Member of search committee for the department office specialist, 2004
Member of the Scholarship committee, 2005
Member of the Merit committee, 2006 - 2008
Member of search committee for the Neuromuscular Control Position, 2009/10, 2010/11
Member of the Curriculum Committee (undergraduate and graduate), 2008 – 2012
Chair of search committee for the Neurophysiology Position, 2012
Member of the Admission committee, 2006 - 2014
Personnel Committee, 2013-2014
Faculty Liaison to Evonuk Fellowship Committee, 2010-2015
Director of Research, 2010-2015
Department Head, 2014 - 2018

TEACHING/MENTORING ACTIVITIES

Courses Taught at Iowa State University
Doctoral Student Seminar (KIN 615) 2019, 2020, 2021, 2022
Research Methods (KIN 501; co-taught 1/3) Spring 2023

Courses Taught at University of Oregon
Kinematics of Human Movement (HPHY 681/684) 2001, 2002
Kinetics of Human Movement (HPHY 682/685) 2001, 2002, 2005, 2007, 2009, 2011, 2013, 2015, 2017, 2019
Biomechanical Principles of Balance Control (HPHY 683/686) 2001, 2002, 2005, 2007, 2009, 2011
Biomechanics (HPHY 381) 2001, 2004, 2006, 2009, 2010, 2012
Exercise as Medicine (HPHY 101; course co-director/one-quarter term instruction) 2003, 2004, 2005, 2006, 2007, 2008
Gait Analysis (HPHY 410/510) 2003, 2004, 2005; (HPHY 485/585) 2007, 2009, 2014
Orthopedic Biomechanics (HPHY 410/510) 2004; (HPHY 486/586) 2006, 2008, 2010, 2012, 2014
Systems Physiology I (HPHY 621; course co-director/one-half term instructor) 2011-2017

Research Trainees at Iowa State University
Post-Doctoral Fellows:

Hyun Kim, Ph.D. (9/2020 – 7/2022) Current position: Assistant Professor, School of Kinesiology, Louisiana State University.

Doctoral Students:

1. Hang (Frankie) Qu (2019-2024): *Effects pf mental and physical fatigue on cognitive function and gait performance in single- and dual-task conditions*. Current position: Postdoctoral Fellow, University of Florida.
2. Yu-Pin Liang (2019-2024): *Assessing gait activities and balance control with the use of wearable sensors and deep learning model*. Current position: Postdoctoral Associate, University Notre Dame.
3. Jinfeng Li (2021-now): *Effects of upper extremity movement, gown size, and physical fatigue on contamination risks during medical gown doffing*

Undergraduate Students:

1. Taylor Renze (2019-20)
2. Jillian Dunn (2019-20)
3. Nate Conger (UC-Berkeley; 2021 Summer Intern)
4. Taline Jouzi (2021)
5. Isaac Petersen (2021-22)
6. Paige Wageman (Spring 2023)
7. Ashlyn Keeney (Spring 2023)
8. Kaylee Tobaben (Spring 2023)
9. Mason Johnston (2022-23)
10. Ellyn Louwagie (2022-23)
11. Max Doyle (Spring 2023)

Research Trainees at University of Oregon

Visiting Scholars:

Hao-Ling Chen, Ph.D. (7-9/2008): Current position: Professor, School of Occupational Therapy, National Taiwan University, Taipei, Taiwan.

Post-Doctoral Fellows:

Wei-Li Hsu, Ph.D. (4/2008 – 7/2009): Current position: Professor, Department of Physical Therapy, National Taiwan University, Taipei, Taiwan.

Doctoral Students:

1. Michael E. Hahn, PhD (2000-2003): *Biomechanical assessment of balance control in the elderly: muscular weakness and dynamic stability*. Current position: Professor, Department of Human Physiology, University of Oregon.
2. Shing-Jye Chen, PhD (2000-2005): *Effects of arch support on foot mechanics during gait*. Current position: Associate Professor, Department of Product Design, Tainan University of Technology, Tainan, Taiwan.
3. Tonya M. Parker, PhD (2002-2006, Co-advisor): *Recovery of motor and cognitive function following concussion.* Current position: Professor, Department of Movement Science, Grand Valley State University.

4. Heng-Ju Lee (2003-2006): *Detection of gait instability and quantification of muscular demands during locomotion in the elderly*. Current position: Associate Professor, Department of Physical Education and Sport Sciences, National Taiwan Normal University, Taipei, Taiwan.
5. David S. Mandeville, PhD (2002-2006, Co-advisor): *The effect of total knee replacement on measures of gait and stair ascent*. Current position: Assistant Professor, Department of Physical Education/Exercise Science, Columbia Basin College, WA.
6. Robert Cartena (2005-2008): *Attention and gait performance following mild traumatic brain injury*. Current position: Associate Professor, Kinesiology Program, Washington State University.
7. Vipul Lugade (2007-2011): *Balance control and stability during gait-an evaluation of fall risk among elderly adults.* Current position: Associate Professor, Decker College of Nursing and Health Sciences, Binghamton University (SUNY).
8. Tzurei (Chu-Jui Betty) Chen (2008- 2012): *Clinical and Laboratory Balance Assessments in Elderly Adults: Fall Prevention and Intervention.* Current position: Associate Professor, School of Physical Therapy, Pacific University.
9. Masahiro Fujimoto (2008-2012): Dynamic limits of balance control during daily functional activities associated with falling. Current position: Scientist, Human Augmentation Research Center, National Institute of Advanced Industrial Science and Technology, Japan.
10. Shiu-Ling Chiu (2008-2012): *Assessment of inter-joint coordination during walking*.
11. Scott Breloff (2008-2013): *Quantification of spinal motion during activities of daily living*. Current Position: Biomedical Research Engineer, National Institute of Occupational Safety and Health, Centers for Disease Control and Prevention, Morgantown, WV.
12. James Becker (2010-2013): *Towards an understanding of prolonged pronation: Implications for medial tibial stress syndrome and Achilles tendinopathy.* Current Position: Associate Professor, Department of Health and Human Development, Montana State University.
13. David Howell (2011-2014): *Examination of cognitive and motor performance recovery following concussion in adolescents and adults*. Current position: Associate Professor, Colorado Children's Hospital, University of Colorado School of Medicine, CO.
14. On-Yee (Amy) Lo (2010-2015): *Visuospatial attention during walking*. Current position: Research Scientist, Hebrew Rehabilitation Center and Harvard Medical School, MA.
15. James J. Hannigan (2014-2017): *Hip neuromuscular control during running*. Current position: Assistant Professor, Doctor of Physical Therapy (DPT) program, Oregon State University-Cascades.
16. William Pitt (2016-2019): *Detection of dynamic balance control deficits following concussion using an IMU-based dual-task assessment*. Current Position: Associate Professor, Director of Musculoskeletal PT Curriculum, School of Health and Rehabilitation Science, University of Pittsburgh.
17. Szu-Hua Chen (2015-2019): *Effect of fatigue on balance control during dual-task walking*. Current Position: Assistant Professor, Department of Physical Therapy, Ithaca College, Ithaca, NY

Master Students:

1. Sentaro Koshida, MS (2002): *Identifying biomechanical challenge during locomotion in the elderly*
2. David S. Mandeville, MS (2002, Co-advisor): *Lower extremity functional adaptations to total knee replacement*
3. Marisa L. Hastie, MS (2003): *Effects of walking speed on center of mass motion*
4. Heng-Ju Lee, MS (2003): *Correlation between muscular strength and dynamic stability in the elderly*
5. Alan Wiest, MS (2003): *Stairway design for kinetic analysis of stair ascending and descending*

6. Arik Wiest, MS (2003): *Inter-marker distance changes at the foot during stance phase of walking*
7. Charis S. Robinson (2005): *Dynamic stability following total knee arthroplasty*
8. Robert D. Catena (2005): *Secondary task effects on gait stability in concussed college patients*
9. Jung-Hung Chien (2005): *Effects of walking speed on stride length and cadence in healthy elderly and young adults*
10. Virginia M. Klausmerier (2006): *Comparison of functional outcomes in anterior verse lateral hip replacement*
11. Jeffrey Beavers (2006): C*oordination of the swing limb during obstacle crossing: a comparison between young and elderly adults*
12. Vipul Lugade (2007): *Gait stability following total hip replacement*
13. Susan Ewers (2007): *Effects of above-ankle orthoses on individuals with diabetic partial foot amputation*.
14. Tzurei (Chu-Jui Betty) Chen (2008): *Quantification of muscular demands in the elderly: electromyography vs. joint moments*
15. James Becker (2010): *Effects of two marker placements and data analysis methods on running gait analysis*
16. David Howell (2011): *Evaluation of orientation/executive function in concussed high school athletes*
17. James J. Hannigan (2014): *The relationship between hip strength and hip, pelvis, and trunk kinematics in healthy runners*
18. Quinn Peterson (2017): *Effect of Concussion Symptom Severity on Deficit and Recovery of Gait and Attention Functions*
19. Michael Utter (2018): *Accelerometry-Based Assessment of Dynamic Balance Control in Female Contacts Sport Athletes*

Undergraduate Students:

1. Amanda J. Fenton, BS (2004): *Longitudinal effects of concussion on gait patterns in college subjects*
2. Whitney N. Gum (2006): *Gait analysis on obstacle crossing following total hip replacement*
3. Erin E. Manning (2006): *Gait analysis on stair negotiation in older adults: a measure of clearance and lower extremity joint angles*
4. Erik Noren (2007): *The effect of concurrent cognitive and motor perturbation on gait stability following traumatic brain injury*
5. Nina Parikh (2007): *The longitudinal study on the effect of total knee replacement on knee varus moment at midstance*
6. Angela Wu (2008): *Gait asymmetry before and after total hip replacement: anterior vs. Lateral Approach*
7. Soroush Amali (2010): *The effect of THA on total support moment recovery*
8. Jeremy Wearn (2010): *Immediate effect of concussion on balance control during obstructive gait*
9. Eric Pisciotta (2011): *Center of pressure trajectory differences between shod and barefoot running*
10. Libby Frazier (2011): *Balance and turn duration among elderly faller and non-faller populations*
11. Hannah Miller (2012): *The effects of strength on sit-to-walk performance in the elderly*
12. Elena Absalon (2012): *Falls in the elderly: joint moment distribution in the support leg during sit-to-walk*
13. Crystal Lei (2012): *Differences between young and elderly in COM and supporting leg alignment during sit-to-walk*

14. Matt Crocker (2012): *Dual task gait performance in high school athletes following concussion*
15. Michael Kado (2013): *Gait performance during obstacle crossing in concussed adolescent athletes*
16. Chris Gronseth (2013-14): *Examination of foot strike patterns and ankle strength*
17. Madison Murray (2014): *Attentional and neuropsychological assessments following concussion in adolescents and young adults*
18. Michelle Nguyen (2015): *Monitoring recovery from concussion: a multifaceted visual tool*
19. Taylor Kay (2015): *Changes in walking while using a smartphone*
20. Rachel Klas (2015): *Differences in functional recovery following concussion between males and females*
21. Deborah Wang (2015): *Distracted visual attention during walking: response to an unexpected event while walking and using a smartphone in young healthy adults*
22. Justine Silberberg (2015): *Age-related differences in healthy male runners*
23. Varneet Brar (2013-2017): *Correlation between static and dynamic asymmetry in runners*
24. Austin Thompson (2017): *Alterations in joint moments during obstacle crossing following concussion*
25. Jocelyn Taylor (2017): *Effects of muscle fatigue on human motion and cognitive function*
26. Maisie Rapp (2017): *Changes in obstacle crossing following concussion in adolescents*
27. Hao Tan (2018): *The effects of a 30-minute run on hip abductor strength and hip running kinematics: a dynamical approach*
28. Colin Lipps (2018): *The effects of a 30-minute run on runner mechanics and on predisposition to running related injury*
29. Emma Silverman (2018): *Dual-task balance control assessment during 180-degree turn utilizing wearable motion analysis sensor system*
30. Ravahn Enayati (2018): *Dual-task gait imbalance in Veterans with chronic mTBI*
31. Haley Segelke (2019): *Measuring balance control during locomotion with a wearable accelerometer in female lacrosse athletes.*
32. Spencer Smith (2019): *Center of mass trajectory during sit-to-stand as a measure fatigability and its age-related difference*

High School Students:

1. Jessie Liu, South Eugene High School (2011); Attended Princeton University
2. Sandra Liu, South Eugene High School (2013); Attended California Institute of Technology
3. Peter Shen, South Eugene High School (2016): Attended Vanderbilt University

Honors and Awards Received by Students

1. Michael E. Hahn; Dissertation Matching Grant from the International Society of Biomechanics, 2002
2. Michael E. Hahn; Jan Broekhoff Memorial Scholarship, University of Oregon, 2002
3. Shing-Jye Chen; Dissertation Matching Grant from the International Society of Biomechanics, 2003
4. Shing-Jye Chen; Jan Broekhoff Memorial Scholarship, University of Oregon, 2003
5. Heng-Ju Lee; Graduate Student Grant in Aid from the American Society of Biomechanics, 2004
6. Heng-Ju Lee; Gait and Clinical Movement Analysis Society Student Conference Award, 2005
7. Susan Ewers; Student Research Award from Northwest Health Foundation, 2006
8. Robert Catena; Gait and Clinical Movement Analysis Society Student Conference Award, 2007

9. Robert Catena; Graduate Student Grant in Aid from the American Society of Biomechanics, 2007
10. Vipul Lugade; Student Dissertation Award from the International Society of Biomechanics, 2009
11. Vipul Lugade; Jan Broekhoff Memorial Scholarship, University of Oregon, 2009
12. Scott Breloff; Jan Broekhoff Memorial Scholarship, University of Oregon, 2009
13. Chu Jui (Betty) Chen; Ursula (Sue) Moshberger Scholarship, University of Oregon, 2009
14. Chu Jui (Betty) Chen; Campus Leadership and Involvement Award, University of Oregon, 2009
15. Chu Jui (Betty) Chen; Donald & Darel Stein Graduate Student Teaching Award, Graduate School, University of Oregon, 2009
16. Vipul Lugade; Betty Foster McCue Fellowship, Graduate School, University of Oregon, 2010
17. David Howell: NATA Master's Level Grant, NATA Research & Education Foundation, 2010
18. James Becker: Ursula (Sue) Moshberger Scholarship, University of Oregon, 2011
19. James Becker: Eugene & Clarissa Evonuk Memorial Graduate Fellowship, University of Oregon, 2011
20. Scott Breloff: Eugene & Clarissa Evonuk Memorial Graduate Fellowship, University of Oregon, 2011
21. James Becker: Dissertation Matching Grant from the International Society of Biomechanics, 2012
22. James Becker: Graduate Student Grant in Aid from the American Society of Biomechanics, 2012
23. Tzurei (Betty) Chen: Jan Broekhoff Memorial Scholarship, University of Oregon, 2012
24. David Howell: William & Genera Fieldman Scholarship, 2012
25. Tzurei (Betty) Chen: ASSE Foundation's Liberty Mutual Safety Research Fellowship, 2012
26. David Howell: ISB Student Congress Travel Award, 2013
27. On-Yee (Amy) Lo: Eugene & Clarissa Evonuk Memorial Graduate Fellowship, University of Oregon, 2013
28. David Howell: Eugene & Clarissa Evonuk Memorial Graduate Fellowship, University of Oregon, 2013
29. On-Yee (Amy) Lo: Jan Broekhoff Memorial Scholarship, University of Oregon, 2013
30. On-Yee (Amy) Lo: Betty Foster McCue Fellowship, Graduate School, University of Oregon, 2013
31. David Howell: First Place, Ph.D. Student Podium Presentation (Human Locomotion), The 7th World Congress on Biomechanics, Boston, MA, July 6-11, 2014
32. David Howell: NATA Foundation Doctor Dissertation Award, 2015.
33. On-Yee (Amy) Lo: GCMAS Student Travel Grant, 2015.
34. On-Yee (Amy) Lo: Jan Broekhoff Memorial Scholarship, University of Oregon, 2015
35. James J. Hannigan: Jan Broekhoff Memorial Scholarship, University of Oregon, 2015
36. James J. Hannigan: Betty Foster McCue Fellowship, Graduate School, University of Oregon, 2016
37. James J. Hannigan: ISB Student Technical Group Travel Grant, 2016
38. James J. Hannigan: Marthe E. Smith Memorial Science Scholarship, College of Arts and Sciences, University of Oregon, 2016
39. Jocelyn Taylor: UROP-Mini Grant, University of Oregon, 2016
40. Szu-Hua Chen: Graduate Scholarship for Study Abroad, Ministry of Education, Taiwan, 2016
41. Emma Silverman: UROP-Mini Grant, University of Oregon, 2017
42. Colin Lipps and Hao Tan: UROP-Mini Grant, University of Oregon, 2017
43. Szu-Hua Chen: ACSM Biomechanics Interest Group Student Travel Award, 2017

44. Haley Segelke: UROP-Mini Grant, University of Oregon, 2017
45. Spencer Smith: UROP-Mini Grant, University of Oregon, 2017
46. Spencer Smith: CURE Undergraduate Conference Travel Award, University of Oregon, 2018
47. Will Pitt: ACSM Foundation Doctoral Student Research Grant, 2018
48. Jinfeng Li: Pease Family Doctoral Scholarship, Department of Kinesiology, ISU, 2021
49. Yu-Pin Liang: ISU College of Human Science Scholarship, Fall 2022
50. Hang Qu: Barbara E Forker Graduate Scholarship, Department of Kinesiology, ISU, 2020, 2022
51. Yu-Pin Liang: ISU University Research Excellence Award, Spring 2024
52. Hang Qu: ISU Department of Kinesiology Doctoral Research Award, Spring 2024
53. Jinfeng Li: ISU College of Human Science Scholarship, Fall 2024

Invited Seminar & Instructional Courses (since 2001)

1. "Muscle Strength and Balance Control while Negotiating Obstacles during Gait", Physics Colloquium, University of Oregon, October 4, 2001.
2. "Detection of Dynamic Instability in the Elderly" Institute of Biomedical Engineering, National Cheng-Kung University, Taiwan, December 23, 2002.
3. "Dynamic Instability during Obstacle Crossing following Traumatic Brain Injury" Neurological Sciences Institute, Oregon Health & Science University, May 16, 2003.
4. "Biomechanical Assessment of Balance Control in the Elderly", Physical Disabilities Branch, National Institutes of Health, March 19, 2004.
5. "Biomechanical Assessment of Balance Control in the Elderly", College of Health and Human Sciences, Oregon State University, February 22, 2005.
6. "Detection of Dynamic Instability in the Elderly" Department of Biomedical Engineering, Oregon Graduate Institute, Oregon Health & Science University, March 11, 2005.
7. "Gait Stability Following Concussion in College Age Adults", Symposium on Posture and Locomotion Following a TBI, the 6th World Congress on Brain Injury, May 6 – 8, 2005, Melbourne, Australia.
8. "Biomechanics Research at University of Oregon", Department of Industrial Design, Tatung University, Taipei, Taiwan, June 24, 2005.
9. "Biomechanical Analysis of Human Walking: An Objective Assessment of Function", Workshop on Gait Solutions: Biomechanical Assessment and Management of Neurologically Impaired Client, Sacred Heart Medical Center, October 8, 2005.
10. "Age-Related Changes in Balance Control during Gait", Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan, November 22, 2005.
11. "Gait Analysis: An Objective Assessment of Function", Department of Industrial Design, Tatung University, Taipei, Taiwan, November 21, 2005.
12. "Recovery of Motor and Cognitive Function Following Concussion", Institute of Biomedical Engineering, National Cheng-Kung University, Taiwan, July 26, 2006.
13. "Gait Stability Following Concussion", Sport Biomechanics-Joint ISB Track, 5th World Congress of Biomechanics. Munich, Germany, July 29-August 4, 2006.
14. "Assessment of Dynamic Motor Function Following Concussion", Department of Industrial Design, Tatung University, Taipei, Taiwan, December 13, 2006.
15. "Recovery of Biomechanical and Cognitive Function Following Concussion", International Symposium on Biomedical Engineering, Taipei, Taiwan, December 14-16, 2006.
16. "Recovery of Motor and Cognitive Function Following Concussion" Department of Biomedical Engineering, Oregon Health & Science University, April 20, 2007.

17. "Effect of Ankle Motion on Peak Plantar Pressures" F-Scan Educational Workshop, Tekscan, Inc., Portland, Oregon, September 8, 2007.
18. "Biomechanics of Foot-Ankle Complex, Pathomechanics, and Footwear," Department of Industrial Design, Tatung University, Taipei, Taiwan, December 21, 2007.
19. "Biomechanics: An Interdisciplinary Science," Department of Industrial Design, Tatung University, Taipei, Taiwan, December 22, 2007.
20. "Recovery of Motor and Cognitive Function Following Concussion," Institute of Physical Education, Health & Leisure Studies, National Cheng Kung University, Taiwan, December 28, 2007.
21. "Gait Analysis: An Objective Assessment of Function", University Rehabilitation Hospital/Chung Shan Medical University Hospital, Taiwan, January 7, 2008.
22. "Assessment of Dynamic Motor Function Following Concussion," Graduate Institute of Physical Education, Health & Leisure Studies, National Chia Yi University, Taiwan, December 28, 2007.
23. "Anterior vs. Lateral Total Hip Replacement: A Gait Analysis," Department of Rehabilitation Medicine, Nanjing Medical University/Jiangsu Province Hospital, Nanjing, China, January 18, 2008.
24. "Recovery of Motor and Cognitive Function Following Concussion," Department of Human Kinetics, Nanjing Institute of Physical Education and Sports, Nanjing, China, January 21st, 2008.
25. "Anterior vs. Lateral Total Hip Replacement: A Gait Analysis," Institute of Biomedical Engineering, National Cheng-Kung University, Taiwan, February 21, 2008.
26. "Biomechanics: An Interdisciplinary Science," Department of Mechanical Engineering, Hanyang University, Seoul, Korea, February 25, 2008.
27. "Recovery of Motor and Cognitive Function Following Concussion," Department of Mechanical Engineering, Hanyang University, Seoul, Korea, February 25, 2008.
28. "Longitudinal Assessment of Dynamic Motor Function Following Concussion," Taipei Medical University, Taiwan, March 13, 2008.
29. "Short-Term Recovery of Balance Control following Total Hip Arthroplasty," Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan, September 16, 2008.
30. "Detecting Gait Imbalance in the Elderly," Department of Physical Therapy, National Cheng-Kung University, Tainan, Taiwan, September 23, 2008.
31. "Motion Analysis: an Interdisciplinary Science," Workshop on Sports Coaching Science, Taipei Physical Education College, Taiwan, February 21-22, 2009.
32. "Neuropsychological function and balance control: functional recovery following mTBI," Department of Physical Therapy, National Cheng-Kung University, Tainan, Taiwan, June 24, 2009.
33. "Human Movement Analysis: an Interdisciplinary Science," National Taiwan Normal University, Department of Physical Education, December 17, 2009.
34. "Gait Imbalance: Detecting Fall Risk in the Elderly & Tracking Functional Recovery in mTBI Patients," Departments of Physical Therapy and Occupational Therapy, National Taiwan University, December 18, 2009.
35. "Tracking Functional Recovery in College Students following Concussion," National Taiwan Normal University, Department of Physical Education, December 22, 2009.
36. "Biomechanical Assessment of Dynamic Balance Control during Gait," 36th Annual Meeting & Scientific Symposium of American Academy of Orthotists and Prosthetists, Chicago, Illinois, February 27, 2010.

37. "From Movement Analysis to Fall Prevention in the Elderly: a Translational Research," Keynote Speaker for the 2010 Combined Annual Conference of Taiwanese Society of Biomechanics & Taiwan Society of Biomechanics in Sports, Tainan, Taiwan, October 29-30, 2010.
38. "Translation from Movement Analysis to Patient Cares: Fall Prevention in the Elderly & Tracking Functional Recovery in mTBI patients," Kessler Foundation Research center, West Orange, NJ, November 22 2010.
39. "From Movement Analysis to Fall Prevention in the Elderly," Department of Biomedical Engineering, New Jersey Institute of Technology, Newark, January 21 2011.
40. "From Movement Analysis to Fall Prevention in the Elderly," School of Electrical and Computer Engineering, Oklahoma State University, Stillwater, February 24, 2011.
41. "Interactions between Cognitive and Gait Functions following Concussion," Invited Speaker at the 2011 International Biomechanics Conference & Annual Meeting of Taiwanese Society of Biomechanics, October 20-21, 2011.
42. "Attentional and Motor Deficits Interact after Mild Traumatic Brain Injury," Liberty Mutual Research Center for Safety, Hopkinton, MA, March 12, 2012
43. "Interactions between Cognitive and Gait Functions following Concussion," Invited Speaker at the Bend Concussion Conference, Bend, OR, April 21, 2012.
44. "Detecting Attentional and Gait Deficits following Concussion in Adolescents," Center for Motion Analysis, Connecticut Children's Medical Center, August 30, 2012.
45. "Detecting Gait Imbalance in the Elderly: A Translation from Movement Analysis to Fall Prevention," Department of Physical Medicine and Rehabilitation, Mayo Clinic, Rochester, MN, February 15 2013.
46. "Human Movement Analysis: an Interdisciplinary Science," Guest Lecture to Bio-Inspired Design class, Robert D. Clark Honors College, University of Oregon, May 9th, 2013.
47. "From Movement Analysis to Fall Prevention in the Elderly: a Translation Research," International Workshop on Human Modeling and Enhancement 2013, Tokyo University of Science, Japan, June 28, 2013.
48. "Detecting Gait Imbalance in the Elderly: A Translation from Movement Analysis to Fall Prevention," WCPT-AWP and ACPT Congress 2013, Taichung, Taiwan, September 5-9, 2013.
49. "Monitoring Functional Recovery following mTBI in Adolescents Using Movement Analysis." Department of Physical Therapy, Tzu Chi University, Hualien, Taiwan, September 10, 2013.
50. "Effects of concussion on dynamic balance control during dual-task gait," Department of Biomedical Engineering, Oregon Health Science University, June 12, 2014.
51. "Examination of the effects of concussion on dynamic balance control during dual-task gait," The 2014 ISPGR meeting (invited symposium presentation), Vancouver, BC, Canada, June 29-July 2, 2014.
52. "Aging and inter-joint coordination: walking speed effects and correlation to clinical balance measures," the 7th World Congress on Biomechanics (Neuromuscular function and aging symposium), Boston, MA, July 6-11, 2014.
53. "Using motion analysis to monitor functional recovery from concussion (mTBI)," Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan, December 23, 2014.
54. "Detecting Gait Imbalance in the Elderly: A Translation from Movement Analysis to Fall Prevention," Department of Industrial Engineering & Engineering Management, National Tsing Hua University, Hsinchu, Taiwan, December 25, 2014.
55. "Using motion analysis to monitor functional recovery from concussion," Breakfast Session, the 2015 Gait and Clinical Movement Analysis Society, March 21, 2015.

56. "Gait stability following concussion," TUS-UO Biomechanics Workshop, Tokyo University of Science, Japan, September 2, 2015.
57. "Tracking functional deficits following concussion using movement analysis," New Frontiers in Biomedical Research Series, Louisiana Tech University, Ruston, LA, December 15, 2015.
58. "Tracking functional deficits following concussion using movement analysis," Department of Industrial Engineering & Engineering Management, National Tsing Hua University, Hsinchu, Taiwan, March 9, 2016.
59. "Movement analysis: translate laboratory sciences to real-life applications," Graduate Institute of Design Science, School of Design, Tatung University, Taiwan, March 10, 2016.
60. "Detecting Gait Imbalance in the Elderly: A Translation from Movement Analysis to Fall Prevention," Department of Mechanical Engineering, Tatung University, Taipei, Taiwan, March 11, 2016.
61. "Attention, Brain Injury and Gait," Keynote Speaker, the XIV International Symposium on 3D Analysis of Human Movement, July 19, 2016.
62. "Attention and Gait: Dual-Task Gait Paradigms," Institute of Biomedical Engineering, National Cheng-Kung University, Taiwan, July 25, 2016.
63. "Human Physiology Research: Translating Laboratory Science to Real-Life Applications," Keynote Speaker, 2016 Annual meeting of Taiwan Sports Technology Association, Taichung, Taiwan, November 25, 2016.
64. "Health and Human Performance Research at the University of Oregon." Keynote Speaker, Ministry of Science Technology of Taiwan, Taipei, November 27, 2016.
65. "Attention and Gait: Movement Analysis Using Dual-Task Gait Paradigms," Action Club Seminar, Department of Kinesiology, Pennsylvania State University, February 3 2017.
66. "Health and Human Performance Research at the University of Oregon." Department of Sports Sciences, University of Taipei, Taipei, Taiwan, May 8, 2017.
67. "Biomechanical Analysis of Gait Imbalance: Translation from Movement Analysis to Fall Prevention in the Elderly," Shiaanxi Normal University, Xian, China, September 3, 2017.
68. "Acute and Long-Term Effects of Concussion on Dual-Task Gait Balance Control and Neurocognitive Test Performance," Oregon Health Science University TBI Symposium, September 15, 2017.
69. "Bridging Movement Analysis with Brain Function: Dual-Task Gait Paradigms," Keynote Speaker, 2017 Annual Meeting of Taiwanese Society of Biomechanics, October 14, 2017, Taipei, Taiwan.
70. "Attention and Gait: Dual-Task Gait Paradigms," Department of Biomechanics, University of Nebraska at Omaha, October 27, 2017.
71. "Neuromuscular Control of Hip, Pelvis and Trunk during Running," Department of Sports Medicine, Kaohsiung Medical University, December 13, 2017.
72. "Biomechanical Analysis of Gait Imbalance: From Laboratory Science to Clinical Application," Department of Biomechanics, University of Nebraska at Omaha, February 28 2018.
73. "Post-Concussion: Does Return-to-Activity Impact Recovery?" Science Pub, Oregon Museum of Science and Industry, Eugene, OR, May 10 2018.
74. "Post-Concussion: Does Return-to-Activity Impact Recovery?" Medical Device Innovation Center and Department of Biomedical Engineering, National Cheng-Kung University, Taiwan, August 3, 2018.
75. "Biomechanics of Gait Imbalance: From Laboratory Science to Clinical Application", School of Kinesiology, Shanghai University of Sport, Shanghai, China, October 15, 2018.

76. "Bridging Movement Analysis and Brain Function: Dual-Task Gait Paradigms", School of Kinesiology, Shanghai University of Sport, Shanghai, China, October 17, 2018.
77. "Attention and Gait: Dual-Task Gait Paradigms," Short Course Workshop, Department of Rehabilitation Sciences, Hong Kong Polytechnic University, Hong Kong, China, November 16, 2018.
78. "Biomechanical Analysis of Gait Imbalance in the Elderly: Bridging Clinical Assessment with Laboratory Science," Keynote Speaker, the 11th Pan-Pacific Conference on Rehabilitation, Hong Kong Polytechnic University, Hong Kong, China, November 16, 2018.
79. "Biomechanical Analysis of Gait Imbalance in the Elderly: Bridging Laboratory Science with Clinical Assessment," Invited Speaker, the 2018 International Conference on Mechanics in Medicine and Biology, Taipei, Taiwan, November 22, 2018.
80. "Movement Analysis: Interdisciplinary Science in Human Health and Performance Research" Department of Physical Education, National Tsing Hua University, Hsinchu, Taiwan, April 2, 2019.
81. "Hip Neuromuscular Control and Running Injury," International Conference on Athletes Care and Performance", Invited Speaker, Kaohsiung Medical University, Kaohsiung, Taiwan, November 2-3, 2019.
82. "Biomechanical Analysis of Gait Imbalance in the Elderly: Bridging Clinical Assessment with Laboratory Science," Iowa State University Gerontology Colloquium, February 17, 2020.
83. "Biomechanical Analysis of Gait Imbalance: from Laboratory Science to Clinical Application", Department of Kinesiology, Rice University, Houston, February 21, 2022.
84. "Gait Balance Control Post-Concussion: Does Return-to-Activity Impact Recovery?", Department of Biomedical Sciences, Iowa State University, March 3, 2022.
85. "Biomechanical Analysis of Gait Imbalance: from Laboratory Science to Clinical Application", Medical Device Innovation Center, National Cheng-Kung University, Taiwan, July 5, 2022.
86. "Bridging Movement Analysis with Brain Function: Dual-Task Gait Paradigms", Mayo Clinic Biomechanics Symposium: 50 Year Impact of Integrating Biomechanics Principles into Clinical Practice, the 9th World Congress of Biomechanics, Taipei, Taiwan, July 14, 2022.
87. "Biomechanical Analysis of Gait Imbalance: from Laboratory Science to Clinical Application", Chang Gung University, Taiwan, July 19, 2022.
88. "Contribution of Lower Extremity Muscles to Center of Mass Acceleration during Walking: Effect of Body Weight", Shanghai Clinical Translational Conference on Human Movement Biomechanics & Biomechanics of Gait and Clinical Application Workshop, Shanghai, China, December 3, 2022.
89. "Gait Balance Control after Fatigue: Effects of Age and Cognitive Demand", Department of Biomedical Engineering, National Cheng-Kung University, Taiwan, December 29, 2022.
90. "Cognitive Function and Gait Performance", School of Physical Therapy, National Taiwan University, Taiwan, January 3, 2023.
91. "Cognitive Function and Gait Performance", Tzu Chi University, Hualien, Taiwan, January 5, 2023.
92. "Cognitive Function and Gait Performance", College of Human Health, Kaohsiung Medical University, Kaohsiung, Taiwan, January 9, 2023.
93. "Cognitive Function and Gait Performance", Center for Rehabilitation and Independent Living/Department of Health Sciences and Kinesiology, Georgia Southern University, GA, March 3, 2023.

94. "Biomechanical Analysis of Gait Imbalance: A View from the Center of Mass", Keynote Lecture, the 2023 Congress of International Society of Posture and Gait Research, Brisbane, Australia, July 9-13, 2023.
95. "Cognitive Function and Gait Performance", School of Physical Therapy, Chang Gung University, Taiwan, November 23, 2023.
96. "Cognitive Function and Gait Performance", Department of Physical Education and Sport Science, National Taiwan Normal University, Taipei, Taiwan, November 24, 2023.
97. "How to Write and Publish an Impact Paper", Keynote Lecture, the 2023 New Trends in International Academic Journals on Sport, Exercise, and Physical Education, National Society of Physical Education of Republic of China, Taipei, Taiwan, November 25, 2023.
98. "From Curiosity to Frontiers: The Evolution and Future of Human Movement Analysis", Keynote Lecture, The Inaugural Meeting of Taiwan Society of Movement Science and Technology, Taipei, Taiwan, November 26, 2023.
99. "Evolution of Human Movement Analysis: From Curiosity to Personal Protective Equipment (PPE) Design", Keynote Speech, The 31st Ergonomics Society of Taiwan Annual Meeting and International Conference, Tatung University, Taipei, Taiwan, March 9, 2024.
100. "Biomechanical Analysis of Gait Imbalance: A View from the Center of Mass", Faculty of Allied Health Sciences, Chulalongkorn University, Bangkok, Thailand, March 12, 2024.
101. "How to Write and Publish an Impact Paper", Faculty of Allied Health Sciences, Chulalongkorn University, Bangkok, Thailand, March 13, 2024.
102. "Wearable Sensor-Driven Estimation of Knee Adduction Moment: Stride into Clarity Using Sequence-based Neural Networks and Explainable Artificial Intelligence," Invited Tutorial Lecture – Artificial Intelligence and Machine Learning Applications in the field of Movement Analysis, the 2024 ACSM, Boston, May 30, 2024.
103. "Cognitive Function and Gait Performance", the 2024 Shanghai International Conference on Biomechanics in Human Movement and Clinical Translations, June 28-30, 2024.
104. "How to Write and Publish an Impact Paper", the 2024 Shanghai International Conference on Biomechanics in Human Movement and Clinical Translations, June 28-30, 2024.
105. "Biomechanical Analysis of Gait Imbalance: A View from the Center of Mass", Department of Industrial Engineering & Engineering Management, National Tsing Hua University, Hsinchu, Taiwan, November 21, 2024.
106. "Evolution of Human Movement Analysis: From Curiosity to Multidisciplinary Applications", Invited Talk (on-line), the 2025 Shanghai International Conference on Biomechanics in Human Movement and Clinical Translations, June 14, 2025.

RESEARCH GRANT AWARDS

Awarded Extramural Research Grants

"The Effects of Obstacle Height on Balance during Gait", National Institute on Aging F32 AG05770, 3/30/1999-2000, $55,619. **Role:** Principal Investigator

"Dynamic Balance Control during Obstacle Crossing", Medical Research Foundation of Oregon Seed Grant, 9/1/2001-8/31/2003, $24,954. **Role:** Principal Investigator

"Biomechanical/Sensory Motor Functions After Concussion", Centers for Disease Control and Prevention, Traumatic Injury Biomechanics Research Grant-R49CCR 021735-01, 9/30/2002-9/29/2003, $150,000. **Role:** Principal Investigator

"Instability and Muscular Demand during Obstacle Crossing", National Institute of Child Health and Human Development, R03 HD42039-01A1, 4/1/2003-3/31/2005, $142,151. **Role:** Principal Investigator

"Modeling the Role of Muscle Strength in Balance Control", National Institute on Aging, R03 AG022204-01, 5/1/2003-4/30/2005, $70,145. **Role:** Principal Investigator

"Biomechanical/Sensory Motor Functions After Concussion", Centers for Disease Control and Prevention, Traumatic Injury Biomechanics Research Grant-R49CCR 023203, 9/30/2003-9/29/2007, $714,930. **Role:** Principal Investigator

"Age Related Changes in Posture and Movement", National Institute on Aging, 9/15/2005-9/14/2009, $1,377,006. **Role:** Co-Investigator (PI: Woollacott)

"Vision-Based Gait Analysis for Early Fall-Risk Detection," Oklahoma Health Research Program, 8/2009-7/2011, $135,000. **Role:** Consultant (PI: Fan, Guoliang, Oklahoma State University)

"Rehabilitation Research and Development Center of Excellence for Limb Loss Prevention and Prosthetic Engineering (VA Grant A4842C)", Subcontract#: VA-260-09-RQ-0509, 9/1/2009-9/30/2010, $70,009. **Role:** Principal Investigator

"Longitudinal Recovery of Cognitive and Motor Function in Adolescent Athletes following Concussion and its Impact on Return to Play Decisions", Translational Research Award, University of Oregon and PeaceHealth Oregon Region, 07/01/2010-12/31/2011, $10,000. **Role:** Principal Investigator

"Rehabilitation Research and Development Center of Excellence for Limb Loss Prevention and Prosthetic Engineering (VA Grant A4843C)", Subcontract#: VA-260-P-0876, 10/1/2010-9/30/2011, $70,020. **Role:** Principal Investigator

"BBMI: Applying advances in cognitive neuroscience and neurophysiology to remote brain analysis services and neural rehabilitation," DOD – TATRC Program Grant, W81XWH-11-1-0717, $187,500, 9/15/2011-9/14/2013, **Role:** Subproject Co-Principal Investigator (PI: Espy; total award amount: $2,097,000)

"Assessment of Blood Flow and Perfusion during Challenges to Hemostasis in Humans", Defense University Research Instrumentation Program, DOD W911NF-11-1-0330, 8/10/2011-8/9/2012, $158,400. **Role**: Co-Principal Investigator (PI: John Halliwill)

"Scientific Support to Elite High Jumpers," United States Olympic Committee-USATF, 2012, $5,000, **Role**: Principal Investigator

"Human Integrative Physiology Research at the University of Oregon", Office of Naval Research, Defense University Research Instrumentation Program, N00014-12-1-0771, 6/15/2012-6/14/2013, $237,459. **Role**: Co-Principal Investigator (PI: Andrew Lovering)

"Effect of Working Memory and Muscle Fatigue on dynamic Gait Balance Control in Older Workers," Professional Training Opportunities Program (PTOP) in Occupational Health and Safety, $5,805. 2017. **Role:** Faculty PI (Student PI: Szu-Hua Chen)

"Dual-Task Gait Stability Assessment Utilizing a Wearable Motion Analysis System: Diagnosis and Management of mTBI," W911QY-16-A-0014-0016, AMEDD Advanced Medical Technologies Initiative Research Grant, United States Army Medical Research and Materials Command, $34,900, 2/2017-8/2017. **Role:** Faculty PI (Student PI: William Pitt)

"Dual-Task Gait Stability Assessment Utilizing a Wearable Motion Analysis System" ACSM Foundation Doctoral Student Research Grant, $4,800, 7/2018-6/2019. **Role:** Faculty Advisor (Student PI: William Pitt)

"Performance Improvement of Personal Protective Equipment (PPE) for Healthcare Workers", 1 R01 OH011947-0100, $1,763,855; 01/2021-12/2024, National Institute on Occupational Safety and Health. **Role**: Co-PI (PI: Guowen Song)

"Process and Outcome Evaluation of the Walk with Ease Program for Fall Prevention", 1 U01CE003490-01-00, $1,046,852; 09/30/2022-09/29/2025, Centers for Disease Control and Prevention. **Role:** Co-I (PI: Greg Welk)

"Muscle-Centric Approach to Personalized Prevention of Patellar Tendinopathy: Wearable Sensors, Muscle Function Analysis and AI Integration," $157,728, 04/2024-03/2027, Louisiana State University, BOR Support Fund, Research and Development Program.
Role: Co-I (PI: Huyn-Kyung Kim, LSU)

Pending Extramural Research Grants

"Detecting Early Patella Tendinopathy and Simulating Personalized Muscle-Strengthening Intervention: A Hybrid Approach with Wearable Sensors and Ultrasound Imaging", NIH R01 AM240136, 2024-2028, $1,310,682. **Role:** Co-I (PI: Kim, LSU)

Awarded Intramural Research Grants

"Lower Extremity Muscle Strength and Dynamic Balance Control While Negotiating Obstacles during Walking," University of Oregon Summer Research Award 2002.

"Quantifying Cognitive, Neurological, and Movement Disorders in Veterans with Chronic mTBI," University of Oregon Faculty Research Award, $5,500, 7/1/2015-6/30/2016.

"Bridge Funding for Cellular and Molecular Research of Human Performance", Office of the Vice President for Research and Innovation, University of Oregon, $58,000, 6/16/2015-6/15/2016.

"Statewide Workshop for Concussion Research", CAS Winter 2016 Program Grant Award, University of Oregon, $4,870.

"Interdisciplinary Research for Next Generation High Performance Personal Protective Equipment (NexGenPPE)," $600,000. Presidential Interdisciplinary Research Initiative, Iowa State University, 2019-2022. **Role:** Co-PI (PI: Guowen Song).

ISU First-Year Honors Mentor Grant, $500 (Students: Ryan Schiltz and Quincey Bauman; Faculty Mentor: Chou)

BIBLIOGRAPHY

Peer-Reviewed, Original Articles (Chou's students or postdoctoral trainees with an underline)

2025

1. Jamali, P., **Chou, L-S**, and Catena, R: Whole-cycle and time-specific validation of a GUI-based ground reaction force estimation tool for clinical gait analysis without a force plate. *Medical Engineering and Physics* 151 (2025): 104366 (doi.org/10.1016/j.medengphy.2025.104366)

2024

2. Lamoureux, N.R., Lansing, J., Dixon, P., Radske-Suchan, T., Dorneich, M., **Chou, L-S** and Welk, G.: Study protocol: process and outcome evaluation of the walk with ease program for fall prevention. *BMC Public Health* (2024): 24:2658 (https://doi.org/10.1186/s12889-024-20138-z).
3. Liang, Y-P and **Chou, L-S**.: Center of mass acceleration during walking: comparison between IMU and camera-based motion capture methodologies. *Wearable Technologies*, 5, e16 (doi.org/10.1017/wtc.2024.12).
4. Byrk, KN, Passalugo, SW, **Chou, L-S**, Reisman, DR, Hafer, JF, Semrau, JA, and Buckley, TA: Increased Auditory Dual Task Cost during Gait Initiation in Adults with Persistent Concussion Symptoms. *Archives of Physical Medicine and Rehabilitation* (doi.org/10.1016/j.apmr.2024.08.007).
5. Li, J., Qiu, F., Gan, L. and **Chou, L-S**.: Concurrent validity of inertial measurement units in range of motion measurements of upper extremity: A systematic review and meta-analysis. *Wearable Technologies* (2024), 5, e11 (doi:10.1017/wtc.2024.6).
6. Liang, Y-P, Zhang, M., Lamoureux, N., Lansing, J., **Chou, L-S**, and Welk, G.: Estimation of STEADI performance using inertia measurement unit. *Archives of Gerontology and Geriatrics Plus* 1 (2024) 100031(doi.org/10.1016/j.aggp.2024.100031).
7. Chen, T. and **Chou, L-S**.: Biomechanical balance measures during timed up and go test improve prediction of prospective falls in older adults. *Archives of Physical Medicine & Rehabilitation* 105 (8): 1513-19, 2024 (doi.org/10.1016/j.apmr.2024.03.010).
8. Kim, H-K, Qu, H. and **Chou, L-S**.: Center of mass motion and plantar pressure distribution during walking in overweight individuals. *Gait and Posture* 108: 307-312, 2024 (doi.org/10.1016/j.gaitpost.2024.01.003).

2023

9. Liang, Y-P and **Chou, L-S**: Assessment of gait balance control using inertial measurement units – a narrative review. *World Scientific Annual Review of Biomechanics* 1: 2330005, 2023 (doi.org/10.1142/S2810958923300068).
10. Bryk, KN, Passalugo, S, **Chou, L-S**, Reisman, DR, Hafer, J, Semrau, JA, and Buckley, TA: Dual task gait cost in adults with persistent concussion symptoms. *Gait and Posture* 101: 120-123, 2023 (doi.org/10.1016/j.gaitpost.2023.02.008).

2022

11. Kim, HK, Lu, S-H, Lu, T-W, and **Chou, L-S**: Contribution of lower extremity muscles to center of mass acceleration during walking: effect of body weight. *Journal of Biomechanics* 146 (2023) 111398 (doi.org/10.1016/j.jbiomech.2022.111398).

12. Chen, SH and **Chou, L-S**: Inter-joint coordination variability during a sit-to-stand fatiguing protocol. *Journal of Biomechanics* 138: June 2022 (doi.org/10.1016/j.jbiomech.2022.111132).
13. Chen, SH and **Chou, L-S**: Gait balance control after fatigue: effects of age and cognitive demand. *Gait and Posture* 95: 129-134, 2022 (doi.org/10.1016/j.gaitpost.2022.04.020).
14. Kim, HK, Dai, X., Lu, S-H, Lu, T-W. and **Chou, L-S**: Discriminating features of ground reaction forces in overweight old and young adults during walking using functional principal component analysis. *Gait and Posture* 94: 166-172, 2022 (doi.org/10.1016/j.gaitpost.2022.03.012).
15. Kim, HK and **Chou, L-S**: Lower limb muscle activation in response to balance-perturbed tasks during walking in older adults: a systematic review. *Gait and Posture* 93: 166-176, 2022 (doi.org/10.1016/j.gaitpost.2022.02.014).

2021

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112. Chiu, S-L and Chou, L-S: Altered inter-joint coordination during walking in patients with total hip arthroplasty. *The 2010 ASB meeting* (poster presentation), Providence, RI, August 18-21, 2010.
113. Becker, J, Osternig, L, James, S, and Chou, L-S: Effects of using heel windows and single subject analysis to measure rear foot motion during running. *The 2010 ASB meeting* (poster presentation), Providence, RI, August 18-21, 2010.

114. Becker, J, Osternig, L, James, S, and Chou, L-S: Two foot marker placement methods reveal different coordination patterns during running. *The 2nd Congress of the International Foot and Ankle Biomechanics Community* (poster presentation), Seattle, WA, September 16-18, 2010.
115. Lugade, V and Chou, L-S: Balance control characteristics during gait of healthy adults and elderly fallers (poster presentation). *The 2011 GCMAS annual meeting*, Bethesda, MD, April 26-29, 2011.
116. Chiu, S-L and Chou, L-S: Age-related differences in modulating inter-joint coordination when changing walking speeds (podium presentation). *The 2011 GCMAS annual meeting*, Bethesda, MD, April 26-29, 2011.
117. Chen, C-J and Chou, L-S: Center of mass control during sit-to walk in elderly adults (podium presentation). *The 2011 GCMAS annual meeting*, Bethesda, MD, April 26-29, 2011.
118. Lugade, V, Farley, A, and Chou, L-S: Fall risk analysis using K-means clustering on gait balance measures (poster presentation). *The ISB 2011*, Brussels, Belgium.
119. Lugade, V and Chou, L-S: Balance control characteristics during gait of older adults and fallers (poster presentation). The ISB 2011, Brussels, Belgium.
120. Becker, J, Sinsurin, K, Pisciotta, E, James, S, Osternig, L, and Chou, L-S: Foot strike pattern does not predict loading rates during shod or barefoot running (podium presentation). *The ISB 2011*, Brussels, Belgium.
121. Chiu, S-L and Chou, L-S: Effect of walking speed on inter-joint coordination differs between young and elderly adults (podium presentation). *The 2011 ASB Annual meeting*, Long Beach, CA.
122. Chen, C-J and Chou, L-S: Age-related differences in center of mass control during sit-to-walk (poster presentation). *The 2011 ASB Annual meeting*, Long Beach, CA.
123. Becker, J, Sinsurin, K, Pisciotta, E, James, S, Osternig, L, and Chou, L-S: Does foot strike pattern predict loading rates during shod or barefoot running? (podium presentation), *The 2011 ASB Annual meeting*, Long Beach, CA.
124. Fujimoto, M, Hsu, W-L, van Donkelaar, P, Woollacott, M, and Chou, L-S: Weakness in ankle dorsiflexors reduces balance recovery ability during a stance disturbance in the elderly (podium presentation). *The 2011 ASB Annual meeting*, Long Beach, CA.
125. Pisciotta, E, Becker, J, Sinsurin, K, James, S, Osternig, L, and Chou, L-S: Center of pressure trajectory differences between shod and barefoot running (poster presentation). *The 2011 ASB Annual meeting*, Long Beach, CA.
126. Lo, O-Y, Chou, L-S, and van Donkelaar, P: Visuospatial Attention Influences on Toe Clearance during Obstacle Crossing (poster presentation), *The First Joint World Congress of ISPGR and Gait & Mental Function*, Trondheim, Norway, June 24-28 2012.
127. Ding, M., Fan, G., Zhang, X., Ge, S., and Chou, L-S.: Structure-guided manifold learning for video-based motion estimation. *The 2012 IEEE International Conference on Image Processing*, Orlando, FL.
128. Chiu, S-L and Chou, L-S: Clinical balance measures are associated with variability of inter-joint coordination during walking in elderly adults (poster presentation). *The 2012 ASB Annual Meeting*, Gainesville, FL.
129. Fujimoto, M and Chou, L-S: Momentum control strategies during walking in elderly fallers (podium presentation). The 2012 ASB Annual Meeting, Gainesville, FL.
130. Chen, T and Chou, L-S: Altered movement strategy during sit-to-walk in elderly adults with history of falling (poster presentation). *The 2012 ASB Annual Meeting*, Gainesville, FL.
131. Becker, J, Howey, RJ, Osternig, LR, James, S, and Chou, L-S: Plantar pressure differences between rearfoot and midfoot striking runners during shod running (poster presentation). *The 2012 ASB Annual Meeting*, Gainesville, FL.
132. Becker, J, Osternig, LR, James, S, and Chou, L-S: Biomechanics of retrospective navicular stress fractures (poster presentation). *The 2012 ASB Annual Meeting*, Gainesville, FL.

133. Becker, J, Howey, RJ, Osternig, LR, James, S, and Chou, L-S: Vertical load distribution in the metatarsals during shod running (podium presentation). *The 2012 ASB Annual Meeting*, Gainesville, FL.
134. Breloff, S and Chou, L-S: Quantification of multi-segmental spine movement during gait (poster presentation). *The 2012 ASB Annual Meeting*, Gainesville, FL.
135. Howell, D, Osternig, LR, and Chou, L-S: Dual-task walking and computerized cognitive tests in assessing concussed high school athletes (poster presentation). *The 2012 ASB Annual Meeting*, Gainesville, FL.
136. Lo, O-Y, Chou, L-S, and van Donkelaar, P: Orienting visuospatial attention is required for planning and executing an obstacle crossing and is biased by obstacle location during walking (poster presentation). *The 2012 Society of Neuroscience Meeting*, New Orleans, LA.
137. Chiu, S-L and Chou, L-S: Variability of inter-joint coordination during walking in elderly non-fallers and fallers. *The Gait and Clinical Movement Analysis Society (GCMAS) 2013 Meeting* (poster presentation), Cincinnati, OH, May 14-17, 2013.
138. Chiu, S-L, Osternig, LR and Chou, L-S: Acute effects of concussion on lower extremity inter-joint coordination during obstacle crossing and dual-task walking. *The Gait and Clinical Movement Analysis Society (GCMAS) 2013 Meeting* (podium presentation), Cincinnati, OH, May 14-17, 2013.
139. Chen, T and Chou, L-S: Impacts of muscle strength and balance control on sit-to-walk and truning durations in the timed up and go test. *The Gait and Clinical Movement Analysis Society (GCMAS) 2013 Meeting* (podium presentation), Cincinnati, OH, May 14-17, 2013.
140. Chen, T and Chou, L-S: Frontal plane balance control during timed up and go test predicts prospective falls in elderly adults. *The Gait and Clinical Movement Analysis Society (GCMAS) 2013 Meeting* (podium presentation), Cincinnati, OH, May 14-17, 2013.
141. Chiu, S-L, Osternig, LR and Chou, L-S: Effect of concussion on lower extremity inter-joint coordination during obstacle crossing and dual-task walking. *ISPGR Congress 2013* (podium presentation), Akita, Japan, June 21-26, 2013.
142. Chen, T and Chou, L-S: Biomechanical balance parameters in frontal plane predict prospective falls in elderly adults. *ISPGR Congress 2013* (poster presentation), Akita, Japan, June 21-26, 2013.
143. Chen, T and Chou, L-S: Impacts of muscle strength and balance control on component tasks of the Timed Up and Go test. *ISPGR Congress 2013* (poster presentation), Akita, Japan, June 21-26, 2013.
144. Fujimoto, M, Hsu, W-L, Woollacott, M., Chou, L-S: Ankle dorsiflexor strength related to the ability to restore balance during a backward support surface translation. *ISPGR Congress 2013* (podium presentation), Akita, Japan, June 21-26, 2013.
145. Fujimoto, M and Chou, L-S: An examination of dynamic momentum control during gait using regions of stability. *ISPGR Congress 2013* (poster presentation), Akita, Japan, June 21-26, 2013.
146. Howell, DR; Osternig LR; Chou, L-S. Complexity of cognitive task affects gait balance control in concussed adolescents. *The 31th Conference of the International Society of Biomechanics in Sport* (podium presentation). Taipei, Taiwan. July 2013.
147. Becker, J; Howell, DR; Chou, L-S. A comparison of two calibration techniques for large volume calibration. *The 31th Conference of the International Society of Biomechanics in Sport* (poster presentation). Taipei, Taiwan. July 2013.
148. Becker, J., Kerin, D., and Chou, L-S: Consequences of deviation from the curve radius in the high jump approach. *The 31th Conference of the International Society of Biomechanics in Sport* (podium presentation). Taipei, Taiwan. July 2013.
149. Howell, DR; Osternig LR; Chou, L-S. Dual-task effect on gait balance control in concussed adolescents. The 2013 International Society of Biomechanics Congress (podium presentation). Natal, Brazil, August 2013.

150. Becker, J., Osternig, LR., James, S., Wayner, R., Chou, L-S: Kinematic Markers of prolonged pronation in runners. *The 2013 ASB Annual Meeting* (poster presentation), September 4-7, 2013, Omaha, Nebraska.
151. Becker, J., Osternig, LR., James, S., Wayner, R., Chou, L-S: Prolonged pronation in runners with Achilles tendinopathy. *The 2013 ASB Annual Meeting* (poster presentation), Omaha, Nebraska, September 4-7, 2013.
152. Hannigan, JJ., Becker, J., Chou, L-S: A comparison of hip and trunk kinematics in healthy runners with strong and weak hip abductors. *The 2013 ASB Annual Meeting* (thematic poster presentation), Omaha, Nebraska, September 4-7, 2013.
153. Breloff, SP. And Chou, L-S: Spine motion during activities of daily living in young adults. *The 2013 ASB Annual Meeting* (poster presentation), Omaha, Nebraska, September 4-7, 2013.
154. Howell, DR; Osternig, LR; Christie, AD; Chou, L-S.: Dynamic balance control recovery from mild traumatic brain injury in adolescents and young adults (poster presentation). *The 43rd Annual meeting of the Society for Neuroscience*, San Diego, CA, USA, November 13, 2013.
155. Howell, D, Osternig, LR and Chou, L-S: Return to Physical Activity following Concussion Affects Recovery in Balance Control during Dual-Task Walking (poster presentation). *The Tenth World Congress on Brain Injury*, San Francisco, California, March 19-22, 2014.
156. Lo, O-Y, Liu, S and Chou, L-S: Effects of transcranial direct current stimulation (tDCS) to left dorsolateral prefrontal cortex (DLPFC) on working memory and level walking in young adults (poster presentation). *The 2014 ISPGR meeting*, Vancouver, BC, Canada, June 29-July 2, 2014.
157. Lo, O-Y and Chou, L-S: Effects of transcranial direct current stimulation (tDCS) to right posterior parietal cortex (PPC) on visuospatial attention and obstacle crossing in young adults (poster presentation). *The 2014 ISPGR meeting*, Vancouver, BC, Canada, June 29-July 2, 2014
158. Howell, D., Osternig, LR, and Chou, L-S: Differences in gait balance control recovery from concussion between adolescents and young adults (podium presentation). *The 2014 ISPGR meeting*, Vancouver, BC, Canada, June 29-July 2, 2014.
159. Chen, T. and Chou, L-S: Effect of age and fall histories on center of mass control during the turning phase of the timed up and go test (poster presentation). *The 7th World Congress of Biomechanics*, Boston, MA, July 6-11, 2014.
160. Chou, L-S and Chiu, S-L: Aging and inter-joint coordination: walking speed effects and correlation to clinical balance measures (podium presentation). *The 7th World Congress of Biomechanics*, Boston, MA, July 6-11, 2014.
161. Howell, D., Osternig, L. and Chou, L-S: Concussion affects dual-task gait balance control differently between adolescents and young adults (poster presentation). *The 7th World Congress of Biomechanics*, Boston, MA, July 6-11, 2014.
162. Hannigan, J., Becker, J. and Chou, L-S: Relationship between hip strength and hip, pelvis and trunk kinematics in healthy runners (podium presentation). *The 7th World Congress of Biomechanics*, Boston, MA, July 6-11, 2014.
163. Howell, D., Osternig, L. and Chou, L-S: Return to physical activity following concussion affects recovery in frontal plane balance control during dual-task walking (podium presentation). *The 7th World Congress of Biomechanics*, Boston, MA, July 6-11, 2014.
164. Breloff, S and Chou, L-S: Age effects on spine motion during ambulatory activities (poster presentation). *The 7th World Congress of Biomechanics*, Boston, MA, July 6-11, 2014.
165. Becker, J, James, S, Osternig, LR, and Chou, L-S: Total support moment distribution in runners with Achilles tendinopathy (poster presentation). *The 7th World Congress of Biomechanics*, Boston, MA, July 6-11, 2014.
166. Chiu, S-L, Chou, L-S, and Chang, C-C: Inter-joint coordination of overground versus treadmill walking in young adults (poster presentation). *The 7th World Congress of Biomechanics*, Boston, MA, July 6-11, 2014.

167. Lo, O-Y and Chou, L-S: Distraction in visuospatial attention while approaching an obstacle reduces toe-obstacle clearance (poster presentation). *The 7th World Congress of Biomechanics*, Boston, MA, July 6-11, 2014.
168. Chen, T and Chou, L-S: Center of mass control during turning phase of timed up and go test for older adults with and without fall histories (podium presentation). *The 2015 Annual Meeting of the Gait and Clinical Movement Analysis Society*, Portland, OR, March 18-21, 2015.
169. Chou, L-S, Howell, D, and Osternig, L: Tracking recovery of gait balance control following concussion using an accelerometer (poster presentation). *The 2015 Annual Meeting of the Gait and Clinical Movement Analysis Society*, Portland, OR, March 18-21, 2015.
170. Lo, O-Y, Wang, D., and Chou, L-S: Using a smartphone while walking: effect on the ability to perform an unexpected gait termination (podium presentation). *The 2015 Annual Meeting of the Gait and Clinical Movement Analysis Society*, Portland, OR, March 18-21, 2015.
171. Howell, D., Osternig, LR., and Chou, L-S: Return to activity timing is associated with dual-task gait stability two month after concussion (podium presentation). *The 2015 ACSM Annual Meeting*, San Diego, CA, May 26-30, 2015.
172. Hannigan, JJ and Chou, L-S: The effect of age, sex, and hip strength on inter-segment coordination variability in runners (podium presentation). *The XXV Congress of the International Society of Biomechanics*, Glasgow, July 12-16, 2015.
173. Lo, O-Y and Chou, L-S: Effects of different visual attention tasks on obstacle crossing in healthy young adults (poster presentation). *The 2015 ISPGR World Congress*, Seville, Spain, June 28 - July 2.
174. Chou, L-S, Howell, D, and Osternig, L: Using an accelerometer to monitor recovery of gait balance control following concussion (podium presentation). *The 2015 Annual Meeting of American Society of Biomechanics*, Columbus, OH, August 5-8, 2015.
175. Peterson, Q, Klas, R., Howell, D., and Chou, L-S: Effect of sex on recovery of gait balance control following concussion (thematic poster presentation). *The 2015 Annual Meeting of American Society of Biomechanics*, Columbus, OH, August 5-8, 2015.
176. Chen, S-H, Lo, O-Y, Kay, T, and Chou, L-S: Effect of smartphone texting on gait characteristics during obstacle crossing (podium presentation). *The XIV International Symposium on 3D Analysis of Human Movement*, Taipei, Taiwan, July 18-21, 2016.
177. Hannigan, JJ and Chou, L-S: Inter-segment coordination in running: Is coordination variability different between sexes? (podium presentation). *The XIV International Symposium on 3D Analysis of Human Movement*, Taipei, Taiwan, July 18-21, 2016.
178. Peterson, Q, Klas, R., Howell, D., Osternig, LR and Chou, L-S: Differences in gait balance control following concussion between men and women (podium presentation). *The XIV International Symposium on 3D Analysis of Human Movement*, Taipei, Taiwan, July 18-21, 2016.
179. Chou, L-S, Howell, D, and Osternig, LR: Monitoring recovery of gait balance control following concussion using an accelerometer (poster presentation). *The XIV International Symposium on 3D Analysis of Human Movement*, Taipei, Taiwan, July 18-21, 2016.
180. Howell, D, Osternig, LR, and Chou, L-S: Single-task and dual-task tandem gait test performance after concussion (poster presentation). *The 5th International Consensus Conference on Concussion in Sport*, Berlin, Germany, October 27-28, 2016.
181. Chou, L-S, Peterson, Q and Osternig, LR: Differences in symptom severity and gait balance deficit in concussed adolescents with and without concussion history (poster presentation). *The 5th International Consensus Conference on Concussion in Sport*, Berlin, Germany, October 27-28, 2016.
182. Howell, D, Osternig, LR, and Chou, L-S: Tandem gait test performance after concussion among adolescents (poster presentation). *PRiSM 4th Annual Meeting*, Dallas, Texas, January 26-28, 2017.

183. Wren, T, Solomito, M, Kostyun, R, Wu, Y-H, Mueske, N, Zaslow, T, Chou, L-S, Ounpuu, S: Comparison of balance control during dual-task walking in adolescent athletes after concussion: a multicenter study (podium presentation). The *2017 Annual Meeting of the Gait and Clinical Movement Analysis Society*.
184. Zaslow, T, Solomito, M, Kostyun, R, Wu, Y-H, Mueske, N, Chou, L-S, Ounpuu, S, Wren, T: Evaluation of balance control during dual-task walking in adolescent athletes following concussion: a multicenter study (poster presentation). The *2017 annual meeting of American Medical Society of Sports Medicine*.
185. Wren, T, Solomito, M, Kostyun, R, Wu, Y-H, Mueske, N, Zaslow, T, Chou, L-S, Ounpuu, S: A multicenter study evaluating of balance control during dual-task walking in adolescent athletes following concussion (poster presentation). The 2017 *ISPGR World Congress*.
186. Fujimoto, M, Nagano, A and Chou, L-S: Gait balance classification of young adults, elderly non-fallers and fallers using center of mass velocity and acceleration (poster presentation). The 2017 *ISPGR World Congress*.
187. Chou, L-S, Chen, S-H, and Lo, O-Y: Concurrent phone texting alters crossing behavior and induces gait imbalance during obstacle crossing (podium presentation). The 2017 *ISPGR World Congress*.
188. Chou, L-S and Chen, S-H: Effect of muscle fatigue on gait balance control during dual-task walking (poster presentation). The 2017 *ISPGR World Congress*.
189. Chen, S-H, Taylor, J and Chou, L-S: Lower limb muscle fatigue perturbs gait balance during dual-task walking (podium presentation). *The 2017 ACSM meeting*.
190. Hannigan, JJ and Chou, L-S: Does an immediately reduction in hip abductor strength change running kinematics? (podium presentation). The 2017 ISB Congress.
191. Hannigan, JJ, Shen, P and Chou, L-S: Sex-specific relationships between age and running kinematics (podium presentation). The 2017 ISB Congress.
192. Catena, R, Chen, S-H, and Chou, L-S: The anthropometric model influences whole-body center of mass calculations in gait (poster presentation). The 2017 ASB meeting.
193. Chen, S-H, Taylor, J and Chou, L-S: Effects of lower extremity muscle fatigue on dual-task obstacle-crossing (poster presentation). The 2017 ASB meeting.
194. Pitt, W and Chou, L-S: Validity of using head motion to detect dual-task gait imbalance in adolescents with concussion (poster presentation). The 2017 ASB meeting.
195. Chen, T and Chou, L-S: Frontal plane center of mass motion during timed up and go test predicts prospective falls in elderly adults (podium presentation). The 8th World Congress of Biomechanics, July 8-12, 2018.
196. Chou, L-S, Pitt, W, Peterson, Q, and Osternig, L: Effect of concussion symptom severity on deficit and recovery of dual-task gait balance control (poster presentation). The 8th World Congress of Biomechanics, July 8-12, 2018.
197. Chou, L-S, Howell, D, and Osternig, L: Detecting acute and long-term effects of concussion: dual-task gait balance control vs. computerized neurocognitive test (podium presentation). The 8th World Congress of Biomechanics, July 8-12, 2018.
198. Pitt, W and Chou, L-S: Reliability and Feasibility of an Inertial Measurement Unit Based Dual-Task Gait Balance Assessment (poster presentation and Finalist for the ASB Doctoral Student Presentation Competition). The 2018 ASB meeting.
199. Chen, S-H and Chou, L-S: Fatigue affects balance control differently during single- and dual-task walking in older workers (poster presentation). The 2018 ASB meeting.
200. Pitt, W and Chou, L-S: A preliminary investigation of balance control during a 180 degree turning in acutely concussed young adults (poster presentation). The 2019 ISB Conference.
201. Pitt, W and Chou, L-S: Gait imbalance in individuals with chronic mild traumatic brain injury (poster presentation). The 2019 ISB Conference.

202. Chen, S-H and Chou, L-S: A preliminary investigation on gait balance control after fatigue: effects of age and cognitive demand (poster presentation). The 2019 ISB Conference.
203. Qu, H, Liang, Y-P, and Chou, L-S: Effects of marker placement and body sizes on frontal plane center of mass motion during walking: a preliminary study (poster presentation). Virtual 44th (2020) Meeting of the American Society of Biomechanics, August 4-7, 2020.
204. Liang, Y-P, Qu, H, and Chou, L-S: Center of mass accelerations estimated by wearable sensor technology and motion capture system: are we measuring the same thing? (poster presentation). Virtual 44th (2020) Meeting of the American Society of Biomechanics, August 4-7, 2020.
205. Pitt, W, Chen, S-H, and Chou, L-S: Gait event specific IMU-based kinematic metrics are able to identify balance control deficits in acutely concussed young adults (poster presentation). Virtual 44th (2020) Meeting of the American Society of Biomechanics, August 4-7, 2020.
206. Chen, S-H and Chou, L-S: Inter-joint coordination variability when fatiguing with the use of a repetitive sit-to-stand task (poster presentation). Virtual 44th (2020) Meeting of the American Society of Biomechanics, August 4-7, 2020.
207. Chen, S-H and Chou, L-S: Gait balance control after fatigue: effects of age and cognitive demand (poster presentation). Virtual 44th (2020) Meeting of the American Society of Biomechanics, August 4-7, 2020.
208. Pitt, W., Chen, S-H, and Chou, L-S: Sensitivity and specificity of using IMU measures to detect post-concussion gait imbalance in dual-task walking (pre-recorded video presentation). The 16th (2021 Virtual) International Symposium on 3D-Human Movement Analysis, May 25-28, 2021.
209. Liang, Y-P, Qu, H, and Chou, L-S: Center of mass accelerations estimated by wearable sensor technology and motion capture system: are we measuring the same thing? (pre-recorded video presentation). The 16th (2021 Virtual) International Symposium on 3D-Human Movement Analysis, May 25-28, 2021.
210. Pitt, W., Chen, S-H, and Chou, L-S: Assessing gait balance control in acutely concussed individuals using IMU-based kinematic markers (pre-recorded video presentation). The 16th (2021 Virtual) International Symposium on 3D-Human Movement Analysis, May 25-28, 2021.
211. Chen, S-H and Chou, L-S: Gait balance control during walking after fatigue: effects of age and cognitive demand (pre-recorded video presentation). The 16th (2021 Virtual) International Symposium on 3D-Human Movement Analysis, May 25-28, 2021.
212. Chen, S-H and Chou, L-S: Older is not always worse: balance control and working memory during obstacle-crossing after fatigue (pre-recorded video presentation). The 16th (2021 Virtual) International Symposium on 3D-Human Movement Analysis, May 25-28, 2021.
213. Qu, H, Liang, Y-P, and Chou, L-S: Effects of marker placement and sex on medial-lateral center of mass kinematics estimations during walking: a preliminary study (pre-recorded video presentation). The 16th (2021 Virtual) International Symposium on 3D-Human Movement Analysis, May 25-28, 2021.
214. Kim, HK and Chou, L-S: Muscle contributions to the whole-body COM acceleration during walking in overweight individuals: a preliminary study (pre-recorded video presentation). The 16th (2021 Virtual) International Symposium on 3D-Human Movement Analysis, May 25-28, 2021.
215. Kim, HK and Chou, L-S: Use of musculoskeletal modeling to examine lower limb muscle contribution to gait balance control: effects of overweight, the 2021 IEEE International Conference on Digital Health (online presentation), September 5-11, 2021.
216. Chen, SH and Chou, L-S: Effects of fatigue on the CoM-CoP inclination angle during obstacle crossing in young and older adults. The 9th (2022) World Congress on Biomechanics (online oral presentation), Taipei, Taiwan, July 10-14, 2022.
217. Laing, Y-P and Chou, L-S: Estimation of knee adduction moment during walking using wearable sensor data with the application of sequence-based artificial recurrent neural network. The 9th (2022) World Congress on Biomechanics (online oral presentation), Taipei, Taiwan, July 10-14, 2022.

218. Kim, HK and Chou, L-S: Contributions of lower limb muscle activation to center of mass acceleration during walking: effect of body weight. The 9th (2022) World Congress on Biomechanics (online oral presentation), Taipei, Taiwan, July 10-14, 2022.
219. Kim, HK and Chou, L-S: Age- and body size-related differences in ground reaction forces during walking: A functional principal component analysis. The 9th (2022) World Congress on Biomechanics (online oral presentation), Taipei, Taiwan, July 10-14, 2022.
220. Laing, Y-P and Chou, L-S: Estimation of knee adduction moment during walking using wearable sensor data with an optimized sequence-based artificial recurrent neural network. The 2022 North American Congress of Biomechanics (oral presentation), Ottawa, Canada, August 21-25, 2022.
221. Chen, T, Tomlinson, S, Neumann, S, Foulk, M, and Chou, L-S: Tracking the center of mass position during turning in older adults with and without fall histories. The 2022 North American Congress of Biomechanics (poster presentation), Ottawa, Canada, August 21-25, 2022.
222. Kim, HK, Qu, H, Chou, L-S: Plantar pressure distribution response to various gait speeds and its relationship with gait balance in overweight adults (poster presentation). The 2023 ISB Congress, Fukuoka, Japan, July 30-August 3, 2023.
223. Liang, Y-P, Welk, G and Chou, L-S: IMU-instrumented Timed-Up and Go test identified task-specific mobility declines in older adults (poster presentation). The 2023 ISB Congress, Fukuoka, Japan, July 30-August 3, 2023.
224. Li, JF, Qu, H, Wu, C-F, and Chou, L-S: Effects of physical fatigue on lower limb inter-joint coordination during constant speed treadmill walking (poster presentation). The 2024 ACSM Annual Meeting, Boston, MA, May 28 to 31, 2024.
225. Qu, H, Li, JF, Stegemoller, E and Chou, L-S: Evaluation of laboratory-driven mental fatiguing protocol using EEG and self-reported fatigue scale (poster presentation). The 2024 ACSM Annual Meeting, Boston, MA, May 28 to 31, 2024.
226. Li, JF, Qu, H, and Chou, L-S: Effects of physical fatigue on lower limb inter-joint coordination under different walking conditions (poster presentation). The 2024 ASB Annual Meeting, Madison, WI, August 5-9, 2024.
227. Li, JF, Qu, H, and Chou, L-S: Effects of mental fatigue on lower limb inter-joint coordination in young and older adults (accepted for podium presentation). The 2025 ISB Congress, Stockholm, Sweden, July 27-31, 2025.
228. Li, JF and Chou, L-S: IMU-based kinematic and temporal analysis of upper limbs during doffing medical gown: a preliminary study (accepted for poster presentation). The 2025 ISB Congress, Stockholm, Sweden, July 27-31, 2025.
229. Qu, H., Li, JF, and Chou, L-S: Age-related differences in mental and physical fatigue effects on working memory and gait balance (accepted for podium presentation). The 2025 ISB Congress, Stockholm, Sweden, July 27-31, 2025.
230. Li, JF and Chou, L-S: Evaluating contamination risk during medical gown doffing using movement analysis. Submitted to the 2025 ASB Annual Meeting, Pittsburgh, PA, August 13-16, 2025.
231. Qu, H., Li, JF, Derrick, T, and Chou, L-S: Age-specific adaptations to mental fatigue in dual-task walking of varying complexity. Submitted to the 2025 ASB Annual Meeting, Pittsburgh, PA, August 13-16, 2025.