Curriculum Vitae

LI-SHAN CHOU, Ph.D.

PERSONAL INFORMATION

Work Address:
Department of Kinesiology
Iowa State University
Ames, Iowa 50011
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PRESENT ACADEMIC RANK AND POSITION

Professor and Chair, Department of Kinesiology, Iowa State University
Affiliated Faculty, Neuroscience Graduate Program, Iowa State University
Faculty Associate, Gerontology Program, Iowa State University

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)

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 (Tatung University), 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 Alumnus Award, Tatung University, Taiwan (2019)
ISU Award for Early Achievement in Department Leadership (2021)

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
Adjunct Professor
Graduate Institute of Design Science, School of Design, Tatung University, Taiwan
Honorary Chair Professor
Department of Physical Education, National Tsing Hua University, Taiwan, 2017 – 2020
Adjunct Professor
Physical Education Institute, Shaanxi Normal University, China, 2018 – 2020
Professor and Chair
Department of Kinesiology. Iowa State University, 7/1/2019-now

PROFESSIONAL MEMBERSHIPS AND SOCIETIES

American Society of Biomechanics
International Society of Biomechanics
International Society for Posture and Gait Research
World Association for Chinese Biomedical Engineers
American College of Sports Medicine
Taiwanese Society of Biomechanics
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

Gait Analysis, Rehabilitation Engineering, Sports Medicine, Posture and Balance Control/Aging, Functional Assessment following Brain Injury, Walking Robots

INSTITUTIONAL/DEPARTMENTAL ADMINISTRATIVE RESPONSIBILITIES, COMMITTEE MEMBERSHIPS AND OTHER ACTIVITIES

Editorial Board/Book Editor
Co-Editor, Gait and Posture Virtual Special Issue "Clinical Impact of Instrumented Motion Analysis," 2020
Associate Editor, Gait and Posture (2017- present)
Section Editor, Archives of Physical Medicine and Rehabilitation (2010 - present)
Associate Editor, Journal of Mechanics in Medicine and Biology (2019-present)
Associate Editor, Biomedical Engineering: Applications, Basis, and Communications (2015-present)
Co-Editor 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 Organisation 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, Musculoskeletal Rehabilitation Sciences Study Section (6/2010; 2/2013; 2/2014; 6/2015; 2/2018; 6/2018)
Ad-hoc Reviewer, National Institute of Health, Small Business: Neurological Bioengineering and Technology (7/2020)
Reviewer, National Institute of Health, ZRG1 F10B-B (20) Fellowships: Musculoskeletal, Rehabilitation and Skin Sciences (11/2020; 3/2021; 6/2021)
Reviewer, 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)

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 for the 2021 American Society of Biomechanics Annual Meeting (Virtual).
Member, Advisory Board for Biomedical Science & Engineering, 2021 IEEE International Conference on Digital Health (ICDH).
Co-Chair, Scientific Committee, the 2022 World Congress on Biomechanics.

Iowa State University

Department Chair, Department of Kinesiology, 7/2019-now
Dean's Cabinet, College of Human Sciences
President's Council
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
Student Club Adviser: SYNAPSE at ISU and ISU Taiwanese Students Association

<u>University of Oregon</u>
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
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

<u>Department of Human Physiology, University of Oregon</u>
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

EDUCATIONAL ACTIVITIES

<u>Courses Taught at Iowa State University</u>
Doctoral Student Seminar (KIN 615) 2019, 2020

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 – now)

Doctoral Students:
1. Hang (Frankie) Qu (2019-now)
2. Yu-Pin Liang (2019-now)

Undergraduate Students:
1. Taylor Renze (ISU; 2019-20)
2. Jillian Dunn (ISU; 2019-20)
3. Nate Conger (UC-Berkeley; 2021 Summer Intern)
4. Taline Jouzi (ISU; 2021-now)
5. Isaac Petersen (ISU; 2021-now)

Research Trainees at University of Oregon
Visiting Scholars:
Hao-Ling Chen, Ph.D. (7-9/2008): Current position: Associate Professor, School of Occupational Therapy, National Taiwan University, Taipei, Taiwan.

Post-Doctoral Fellows:
Wei-Li Hsu, Ph.D. (4/2008 – 7/2009): Current position: Associate 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: Associate 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: Assistant 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: Associate 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: Assistant Professor, Department of Physical Education, 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: Assistant 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: Whitaker International Scholar, Chiang Mai University, Chiang Mai, Thailand.
8. Tzurei (Chu-Jui Betty) Chen (2008- 2012): *Clinical and Laboratory Balance Assessments in Elderly Adults: Fall Prevention and Intervention.* Current position: Assistant 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: Assistant 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: Assistant 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: Assistant Professor, United States Military Academy, West Point, NY.
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

<u>Honors and Awards Received by Students</u>

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.

<u>Invited Seminar & Instructional Courses (since 2001)</u>

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.

RESEARCH GRANT AWARDS

<u>Awarded Extramural Research Grants</u>

"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)

Awarded Intramural Research Grants

"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).

"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.

Pending Extramural Research Grants

"Performance Improvement of Personal Protective Equipment (PPE) for Healthcare Workers", 1 R01 OH011947-01A1, total funds requested $1,763,855; Funding decision pending (**Impact Score: 13; Percentile: 2+**). **Role**: Co-PI (PI: Guowen Song)

"SenSE: Low-cost, Flexible, and Privacy-Preserving Multimodal Wearable Sensing for Aging-in-Place Fall Risk Prediction", NFS 20-556, under revision. Role: Co-PI (PI: Kevin Liu).

"Development of a Web-Based Gait Informatics Platform to Improve Clinical Diagnostics of Elderly Adults", NIH SBIR application, submitted 1/5/2021. **Role**: Co-Investigator (PI: Vipul Lugade, Control One LLC, Atlanta, GA).

BIBLIOGRAPHY

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

2021

1. Li, F., Harmer, P, Voit, J and **Chou, L-S**.: Implementing an online virtual fall prevention intervention during a public health pandemic for older adults with mild cognitive impairment: a feasibility study. *Clinical Interventions in Aging* (16) 973-983, 2021.
2. Li, F., Harmer, P, **Chou, L-S.**, and Li, F.: Efficacy of exercise-based interventions in preventing falls among community-dwelling older persons with cognitive impairment: Is there enough evidence? an updated systematic review and meta-analysis. Accepted to *Age and Ageing*.

2020

3. Pitt, W, Chen, S-H and **Chou, L-S**: Using IMU-based kinematic markers to monitor dual-task gait balance control recovery individuals with concussion. *Clinical Biomechanics* (doi.org/10.1016/j.clinbiomech.2020.105145).
4. Pitt, WJ and **Chou, L-S**: A case-control study of gait balance control in Veterans with chronic symptoms following mTBI. *Gait and Posture* 76: 188-192, 2020. (doi.org/10.1016/j.gaitpost.2019.12.010).
5. Buttner, F, Howell, DR, Ardern, CL, Doherty, C, Blake, C, Ryan, J, Catena, R, **Chou, L-S**, Fino, P, Rochefort, C, Sveistrup, H, Parker, T. and Delahunt, E. Concussed athletes walk slower than non-concussed athletes during cognitive-motor dual-task assessments but not during single-task assessments 2 months after sports concussion: a systematic review and meta-analysis using individual participant data. Accepted to *British Journal of Sports Medicine* 54(2):94-101, 2020. (doi.org/10.1136/bjsports-2018-100164).

2019

6. Li, F, Harmer, P, and **Chou, L-S**: Dual-task walking capacity mediates Tai Ji impact on physical and cognitive function. *Medicine and Science in Sports and Exercise* 51(11): 2318–2324, 2019 (doi.org/10.1249/MSS.0000000000002051).
7. Li F, Harmer P, Eckstrom E, Akers L, **Chou L-S**, et al. Cost-effectiveness of a therapeutic Tai Ji Quan fall prevention intervention for older adults at high risk of falling. *J Gerontol Med Sci* 74 (9): 1504-10, 2019 (doi.org/10.1093/gerona/glz008).
8. Pitt, WJ and **Chou, L-S**: Reliability and practical clinical application of an accelerometer-based dual-task gait balance control assessment. *Gait and Posture* 71: 279-283, 2019 (doi.org/10.1016/j.gaitpost.2019.05.014).
9. Hannigan, JJ and **Chou, L-S**: Sex differences in lower extremity coordinative variability during running. *Gait and Posture* 70: 317-322, 2019 (doi.org/10.1016/j.gaitpost.2019.03.024).
10. Lo, O-Y, van Donkelaar, P, and **Chou, L-S**: Effects of transcranial direct current stimulation over right posterior parietal cortex on attention function in healthy young adults. *European Journal of Neuroscience* 49 (12): 1623-1631, 2019 (doi.org/10.1111/ejn.14349).
11. Li F, Harmer P, Eckstrom E, Fitzgerald K, **Chou L-S**, Liu Y. Effectiveness of Tai Ji Quan vs multimodal and stretching exercise interventions for reducing injurious falls in older adults at high risk of falling: Follow-up analysis of a randomized clinical trial. *JAMA Network Open*. 2019; 2(2):e188280 (doi.org/10.1001/jamanetworkopen.2018.8280).

2018

12. Li, FZ, Harmer, P, Fitzgerald, K, Eckstrom, E, Akers, L, **Chou, L-S**, Pidgeon, D, Volt, J, Winters-Stone, K: Comparative effectiveness of a therapeutic Tai Ji Quan intervention versus a multimodal exercise intervention to prevent falls among older adults at high risk of falling: A randomized clinical trial. *JAMA Internal Medicine* 78(10):1301-1310, 2018 (doi:10.1001/jamainternmed.2018.3915).
13. Solomito, MJ, Kostyun, RO, Wu, Y-H, Mueske, NM, Wren, TA, **Chou, L-S**, and Ounpuu, S: Motion analysis evaluation of adolescent athletes during dual-task walking following a concussion: a multicenter study. *Gait and Posture* 64: 260-265, 2018.
14. Chen, S-H, Lo, O-Y, Kay, T. and **Chou, L-S**: Concurrent phone texting alters crossing behavior and induces gait imbalance during obstacle crossing. *Gait and Posture* 62: 422-425, 2018 (doi:10.1016/j.gaitpost.2018.04.004)
15. Fino, P., Parrington, L., Pitt, W., Martini, D., Chesnutt, J., **Chou, L-S**., King, L.: Detecting gait abnormalities after concussion or mild traumatic brain injury: a systematic review of single-task, dual-task, and complex gait. *Gait and Posture* 62: 157-166, 2018 (doi:10.1016/j.gaitpost.2018.03.021)
16. Becker, J., James, S., Osternig, LR., **Chou, L-S.**: Foot kinematics differs between runners with and without a history of navicular stress fracture. *Orthopaedic Journal of Sports Medicine* 6 (4), April 2018 (doi.org/10.1177/2325967118767363)
17. Howell, D., Osternig, L. and **Chou, L-S**: Detection of acute and long-term effects of concussion: dual-task gait balance vs. computerized neurocognitive test. In press. *Archives of Physical Medicine and Rehabilitation* 99: 1318-24, 2018 (doi: 10.1016/j.apmr.2018.01.025).
18. Hannigan, JJ, Osternig, LR, and **Chou, L-S.**: Sex-specific relationships between hip strength and hip, pelvis and trunk kinematics in healthy runners. *Journal of Applied Biomechanics* 34: 76-81, 2018 (doi:10.1123/jab.2016-0333).

2017

19. Breloff, S. and **Chou, L-S**: Three-dimensional multi-segmented spine joint reaction forces during common workplace physical demands/activities of daily living. *Biomedical Engineering: Applications, Basic, and Communications* 29 (4), 2017. (doi: 10.4015/S1016237217500259).

20. Breloff, S. and **Chou, L-S**: Multi-segmented trunk motion of healthy non-elderly adults in different decades of life. *Biomedical Engineering: Applications, Basic, and Communications* 29 (4), 2017. (doi: 10.4015/S1016237217500284).
21. Catena, RD, Chen, S-H, and **Chou, L-S**: Does the anthropometric model influence whole-body center of mass calculations in gait? *Journal of Biomechanics* (59), 23–28, 2017.
22. Chen, T. and **Chou, L-S.**: Impacts of muscle strength and balance control on sit-to-walk and turning durations in the timed up and go test. *Archives of Physical Medicine & Rehabilitation* (98): 2471-6, 2017 (doi: 10.1016/j.apmr.2017.04.003).
23. Becker, J., James, S., Wayner, R., Osternig, LR., **Chou, L-S.**: Biomechanical factors associated with Achilles tendinopathy and medial tibial stress syndrome in runners. *American Journal of Sports Medicine* 45 (11): 2614-21, 2017 (doi: 10.1177/0363546517708193).
24. Saho, K., Fujimoto, M., and **Chou, L-S**: Gait classification of young adults, elderly non-fallers and fallers using micro-doppler radar signals: a simulation Study. *IEEE Sensors Journal* 17 (8): 2320-2321, 2017 (doi: 10.1109/JSEN.2017.2678484).
25. Howell, D, Osternig, LR, and **Chou, L-S**: Single-task and dual-task tandem gait test performance after concussion. *Journal of Science and Medicine in Sport* 20: 622-626, 2017.
26. Yasen, AL, Howell, D, **Chou, L-S**, and Christie, A: Cortical and physical function following mild traumatic brain injury. *Medicine and Science in Sports and Exercise* 49 (6): 1066-71, 2017.

2016

27. Howell, D, Osternig, LR, and **Chou, L-S**: Consistency and cost of dual-task gait balance measure in healthy adolescents and young adults. *Gait and Posture* 49: 176-180, 2016.
28. Fujimoto, M. and **Chou, L-S.**: Sagittal plane momentum control during walking in elderly fallers. *Gait and Posture* 45:121-126, 2016 (doi:10.1016/j.gaitpost.2016.01.009).
29. Howell, D, Osternig, LR, Christie, A and **Chou, L-S**: Return to physical activity timing and dual-task gait stability are associated two months following concussion. *Journal of Head Trauma Rehabilitation* 31 (4): 262-268, 2016 (doi: 10.1097/HTR.0000000000000176).

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30. Lo, O-Y and **Chou, L-S**: Effects of different visual attention tasks on obstacle crossing in healthy young adults. *Biomedical Engineering: Applications, Basis, and Communications* 27 (6): 1550059, 2015 (DOI: 10.4015/S1016237215500593).
31. Breloff, S. and **Chou, L-S**.: Influence of various daily tasks on segmented trunk kinematics. *Biomedical Engineering: Applications, Basis, and Communications* 27 (6): 1550058, 2015 (DOI: 10.4015/S1016237215500581).
32. Lugade, V, Chen, T, Erickson, C, Fujimoto, M, San Juan, J, Karduna, A, **Chou, L-S**: Comparison of an electromagnetic and optical system during dynamic motion. *Biomedical Engineering: Applications, Basis, and Communications* 27:05, 2015. (DOI: 10.4015/S1016237215500416)
33. Breloff, S. and **Chou, L-S**.: Quantification of multi-segmental spine movement during gait. *Journal of Musculoskeletal Research* 18 (2): 1550009-1 – 11, 2015.
34. Lo, O-Y, van Donkelaar, P., and **Chou, L-S**: Distracting visuospatial attention while approaching an obstacle reduces the toe-obstacle clearance. *Experimental Brain Research* 233: 1137-114 (doi: 10.1007/s00221-014-4189-1), 2015.
35. Howell, D, Osternig, LR, and **Chou, L-S**: Monitoring recovery of gait balance control following concussion using an accelerometer. *Journal of Biomechanics* 48:3364-68, 2015.
36. Xu, X, McGorry, R, **Chou, L-S**, Lin, J-H, and Chang, C-C: Accuracy of the Microsoft Kinect™ for measuring gait parameters during treadmill walking. *Gait and Posture* 42 145-151, 2015.

37. Howell, D, Osternig, LR, and **Chou, L-S**: Return to activity after concussion affects dual-task gait balance control recovery. *Medicine and Science in Sports and Exercise* 47 (4) 673-680, 2015.
38. Howell, D, Osternig, LR, and **Chou, L-S**: Adolescents demonstrate greater gait balance control deficits after concussion than young adults. *The American Journal of Sports Medicine* 43 (3): 625-32, 2015.
39. Chen, H-L, Lu, T-W, and **Chou, L-S.**: Variability of inter-joint coordination increases during divided-attention gait following concussion. *Journal of Medical and Biological Engineering*, 35 (1): 28-33, 2015.
40. Chiu, S-L, Chang, C-C, and **Chou, L-S**: Inter-joint coordination of overground versus treadmill walking in young adults. *Gait and Posture* 41: 316-318, 2015.

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41. Becker, J., Pisciotta, E., James, S., Osternig, LR, and **Chou, L-S.**: Center of pressure trajectory differences between shod and barefoot running. *Gait and Posture* 40, 504-509, 2014.
42. Lugade, V, Farley, A., Lin, V. and **Chou, L-S.**: An artificial neural network estimation of gait balance control in the elderly using clinical evaluations. *PLOS ONE* 9 (5): e97595, May 2014.
43. Miller, N, Yasen, A, Maynard, L, Howell, DR, **Chou, L-S**, and Christie, A.: Acute and longitudinal changes in motor cortex function following mild traumatic brain injury. *Brain Injury* 28: 1270-1276, 2014.
44. Howell, DR, Osternig, LR, Koester, M, and **Chou, L-S**: The effect of cognitive task complexity on gait stability in adolescents following concussion. *Experimental Brain Research* 232 (6), 1773-82, 2014.
45. Mayr, U, LaRoux, C, Rolheiser, T, Osternig, L, **Chou, L-S**, and Van Donkelaar, P: Executive dysfunction assessed with a task-switching task following concussion. *PLOS ONE* 9 (3):e91379, March 2014.
46. Li, F., Harmer, P., Liu, Y., **Chou, L-S**: Tai Ji Quan and global cognitive function in older adults with cognitive impairment: a pilot study. *Archives of Gerontology and Geriatrics* 58 (3): 434-9, 2014.
47. Fujimoto, M. and **Chou, L-S**.: Region of stability derived by center of mass acceleration better identifies individuals with difficulty in sit-to-stand movement. *Annals of Biomedical Engineering* 42: 733-741, 2014.

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48. Li, F., Harmer, P., Liu, Y., Eckstrom, E., Fitzgerald, K., Stock, R., **Chou, L-S.**: A randomized controlled trial of patient-reported outcomes with Tai Chi exercise in Parkinson's Disease. *Movement Disorders* 29 (4): 539-545, 2014.
49. Li, F., Harmer, P., Stock, R., Fitzgerald, K., Stevens, J., Gladieux, M., **Chou, L-S.**, Carp, K., Voit, J.: Implementing an evidence-based fall prevention program in an outpatient clinical setting. *Journal of American Geriatrics Society* 61 (12): 2142-9, 2013.
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95. Catena, RD, van Donkelaar, P, Chou, L-S: Attention capacity affects gait following a concussion (poster presentation). *The 2008 North American Congress on Biomechanics*, August 5-9, 2008, University of Michigan.
96. Fujimoto, M, Beppu, S, Okubo, K, Fujii, T, and Chou, L-S: Strategies for balance maintenance during sit-to-stand Movement in elderly people (podium presentation). *The 2008 North American Congress on Biomechanics*, August 5-9, 2008, University of Michigan.
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101. Chen, C-J and Chou, L-S.: Electromyography is better in quantifying muscular demands than joint moments when co-contraction exists (podium presentation). *The 14th Annual Gait and Clinical Movement Analysis Society (GCMAS) Meeting*, Denver, CO, USA March 10-13, 2009.
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104. Chou, L-S., Amali, S. and Lugade, V.: Effect of total hip arthroplasty on contribution of individual joints to dynamic supporting during gait (poster presentation). *The ASB 2009 Annual Meeting*, August 26-29, 2009.
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108. Chiu, S-L and Chou, L-S.: Altered inter-joint coordination during walking in patients with total hip arthroplasty. *The 2010 Joint ESMAC GCMAS Meeting* (poster presentation), Miami, FL, USA May 12-15 2010.
109. Lugade, V. and Chou, L-S.: Center of mass – base of support interaction during gait. *The 2010 Joint ESMAC GCMAS Meeting* (podium presentation), Miami, FL, USA May 12-15 2010.
110. Fujimoto, M. and Chou, L-S.: Limits of dynamic balance control derived by center of mass acceleration during sit-to-stand movement. *The 6th World Congress on Biomechanics* (podium presentation), Singapore, August 1-5, 2010.
111. Fujimoto, M. and Chou, L-S.: Dynamic balance control during sit-to-stand movement: an examination with the center of mass acceleration. *The 2010 ASB meeting* (poster presentation), Providence, RI, August 18-21, 2010.
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.
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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.
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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 IU-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.