

## Curriculum Vitae

**LI-SHAN CHOU, Ph.D.**

### PERSONAL INFORMATION

Work Address:

Department of Human Physiology  
University of Oregon  
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### PRESENT ACADEMIC RANK AND POSITION

Professor, Department of Human Physiology, University of Oregon

### 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 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 2<sup>nd</sup> 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 Award, University of Oregon (2008)
- UO-PeaceHealth Translational Research Award (2010)

Richard A. Bray Faculty Fellowship, University of Oregon (2011)

## **PREVIOUS 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, The University of Illinois at Chicago, Chicago, Illinois, 1989-1990

### Graduate Teaching Assistant

Department of Mechanical Engineering, The 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, The University of Chicago, Chicago, Illinois, 1991-1995

### Research Associate

Motion Analysis Laboratory, Section of Orthopedic Surgery and Rehabilitation Medicine, Department of Surgery, The 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

## **PROFESSIONAL MEMBERSHIPS AND SOCIETIES**

American Society of Biomechanics

Gait and Clinical Movement Analysis Society

International Society of Biomechanics

International Society for Posture and Gait Research

World Association for Chinese Biomedical Engineers

## EDUCATIONAL ACTIVITIES

### 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

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

Orthopedic Biomechanics (HPHY 410/510) 2004; (HPHY 486/586) 2006, 2008, 2010

System Physiology I (HPHY 621; course co-director/one-half term instructor) 2011

### Research Trainees at University of Oregon

#### *Post-Doctoral Fellows:*

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

#### *Doctoral Students:*

1. Michael E. Hahn, PhD (2003): *Biomechanical assessment of balance control in the elderly: muscular weakness and dynamic stability.* Current position: Research Health Scientist, VA RR&D Center of Excellence for Limb Loss Prevention and Prosthetic Research, Seattle, WA.
2. Shing-Jye Chen, PhD (2005): *Effects of arch support on foot mechanics during gait.* Current position: Research Assistant Professor, Institute of Biomedical Engineering, National Cheng-Kung University, Tainan, Taiwan.
3. Tonya M. Parker, PhD (2006, Co-advisor): *Recovery of motor and cognitive function following concussion.* Current position: Assistant Professor, Department of Movement Science, Grand Valley State University.
4. Heng-Ju Lee (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 (2006, Co-advisor): *The effect of total knee replacement on measures of gait and stair ascent.* Current position: Assistant Professor, Department of Kinesiology and Health Science, Sacramento State University.
6. Robert Cartena (2008): *Attention and gait performance following mild traumatic brain injury.* Current position: Assistant Professor, Department of Physical Therapy, University of Evansville.
7. Vipul Lugade (2011): *Balance control and stability during gait-an evaluation of fall risk among elderly adults.* Current position: Post-doctoral Research Fellow, Motion Analysis Laboratory, Department of Orthopedics, Mayo Clinic, Rochester, MN (starting September 26, 2011).
8. Tzurei (Chu-Jui Betty) Chen (2008- present): *Clinical and Laboratory Balance Assessments in Elderly Adults: Fall Prevention and Intervention*
9. Masahiro Fujimoto (2008-present): *Dynamic limits of balance control during daily functional activities associated with falling*
10. Shiu-Ling Chiu (2008-present): *Assessment of inter-joint coordination during walking*

11. Scott Breloff (2008-present): *Quantification of spinal motion during activities of daily living in normal and pathological individuals*
12. Jame Becker (2010-present): *Toward the understanding of prolonged pronation in running*
13. On-Yee (Amy) Lo (2010-present)
14. David Howell (2011-present)
15. Chi-Wei Chou (2011-present)

**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 versus lateral hip replacement*
11. Jeffrey Beavers (2006): *Coordination 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*

**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):

### **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

### **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 6<sup>th</sup> 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, 5<sup>th</sup> 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 21<sup>st</sup>, 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," 36<sup>th</sup> 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.

## **INSTITUTIONAL/DEPARTMENTAL ADMINISTRATIVE RESPONSIBILITIES, COMMITTEE MEMBERSHIPS AND OTHER ACTIVITIES**

### **Department of Human Physiology**

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 Admission committee, 2006 –present  
 Member of the Curriculum Committee (undergraduate and graduate), 2008 – present  
 Faculty Liaison to Evonuk Fellowship Committee, 2010- present  
 Director of Research, 2010- present

### **University of Oregon**

Member of the Scholarship Committee, University of Oregon, 2006 - 2008  
 Member of the Graduate Council, University of Oregon, 2006 – 2009  
 Member of 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 Executive Committee, Lewis Center for Neuroimaging, 2011-present

### **Editorial Board/Book Editor**

Editorial Board Member/Section Editor, Archives of Physical Medicine and Rehabilitation (2010 – present)  
 Editorial Board Member, Journal of Musculoskeletal Research (2009 – present)  
 Editorial Board Member, ISRN Rehabilitation (2010 – present)

### **Invited Reviewer for Scientific Journals**



Journal of Biomechanics	Journal of Mechanics in Medicine and Biology
Medical Engineering & Physics	American Journal of Sports Medicine
Experimental Brain Research	Annals of Biomedical Engineering
Gait and Posture	Journal of Applied Biomechanics
Clinical Biomechanics	Medicine & Science in Sports and Exercise
Physical Therapy	Clinical Orthopaedics and Related Research
Journal of Neuroengineering and Rehabilitation	
ASME Journal of Biomechanical Engineering	
Journal of Rehabilitation Research and Development	

### **Grant Reviewer**

The NATA Foundation Research Committee (2001-2003, 2005, 2006, 2009, 2010)  
 National Science Foundation: Integrative Animal Biology (2004); International Research Fellowship Program (2009)  
 Initial Review Group Panel, National Center for Injury Prevention and Control, Centers for Disease Control and Prevention (2005, 2008, 2012)  
*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)  
*Ad-hoc* Reviewer, National Institute of Health, Musculoskeletal Rehabilitation Sciences Study Section (6/2010)  
 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)  
 Canada Foundation for Innovation (2009)  
 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)  
 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)

### **National and International Services**

Section Co-chair, the 13<sup>th</sup> 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 3<sup>rd</sup> 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 abstract reviewer for the Gait and Clinical Movement Analysis Society, 2004-present.

## **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

## **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. \$187,500, 9/15/2011-9/14/2012, **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)

### **Awarded Intramural Research Grants**

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

### **Pending Extramural Research Grants**

“Evaluation of executive function of attention and gait disturbances in war veterans with traumatic brain injury,” submitted to the Department of Defense/Department of Army, \$999,921 (total direct cost requested). **Role:** Principal Investigator

“Executive function intervention after traumatic brain injury,” submitted to the Department of Veteran Administration, \$200,000 (total direct cost requested). **Role:** Co-Principal Investigator (PI: Michael Hahn)

“Recovery of cognitive and motor functions following concussion in adolescents,” R21 application submitted to the NIH, \$275,000 (total direct cost requested; impact score: 30, 24 percentile). **Role:** Principal Investigator

## BIBLIOGRAPHY

### Peer-Reviewed, Original Articles (Chou’s students or postdoctoral trainee with an underline)

#### 2012

1. Hsu, W-L., **Chou, L-S.**, and Woollacott, M.: Age-related changes in joint coordination during balance recovery. *Age* (in press, DOI 10.1007/s11357-012-9422-x).
2. Spaulding, SE, Chen, T., and **Chou, L-S**: Selection of an above- or below-ankle orthosis for individuals with neuropathic partial foot amputation: a pilot study. *Prosthetics & Orthotics International* 36; Issue 2; 61 – 68 June 2012.
3. Boonyong, S., Siu, K-C, van Donkelaar, P., **Chou, L-S.**, and Woollacott, M.: Development of postural control during gait in typically developing children: the effects of dual task conditions. *Gait and Posture* 35: 428-434, 2012.
4. Fujimoto, M and **Chou, L-S**: Dynamic balance control during sit-to-stand movement: an examination with the center of mass acceleration. *Journal of Biomechanics* 45: 543-548, 2012.
5. Chiu, S-L and **Chou, L-S**: Effect of walking speed on inter-joint coordination differs between young and elderly adults. *Journal of Biomechanics* 45: 275-280, 2012.

#### 2011

6. Lugade, V., Lin, V. and **Chou, L-S**: Center of mass and base of support interaction during gait. *Gait and Posture* 33: 406-411, 2011.
7. Chen, S-J, Mukherjee, M, and **Chou, L-S**: Soft tissue movement at the foot during stance phase of walking. *Journal of the American Podiatric Medical Association* 101: 25-34, 2011.
8. Catena, R.D., van Donkelaar, P., and **Chou, L-S**: The effects of attention capacity on dynamic balance control following concussion. *Journal of NeuroEngineering and Rehabilitation* 8:8, 2011.

#### 2010

9. Klausmeier, V.M., Vipul, L., Jewett, B., and Collis, D., **Chou, L-S**: Is there faster recovery with an anterior or anterolateral THA? A pilot study. *Clinical Orthopaedics and Related Research* 468: 533-541, 2010.
10. Chen, C-J and **Chou, L-S**: Center of mass position relative to the ankle during walking: a clinically feasible detection method for gait imbalance. *Gait and Posture* 31: 391-393, 2010.
11. Lugade, V., Wu, A., Jewett, BA., Collis, DK, and **Chou, L-S**: Gait asymmetry following an anterior and anterolateral approach to total hip replacement. *Clinical Biomechanics* 25: 675-680, 2010.
12. Chiu, S-L, Lu, T-W, and **Chou, L-S**: Altered inter-joint coordination during walking in patients with total hip arthroplasty. *Gait and Posture* 32: 656-660, 2010.

#### 2009

13. Silsupadol, P., Lugade, V., Shumway-Cook, A., van Donkelaar, P., **Chou, L-S.**, Mayr, U., Woollacott, MH: Effects of single- vs. dual-task training on balance performance in older adults: a double-blind, randomized controlled trial. *Archives of Physical Medicine and Rehabilitation* 90: 381-387, 2009.
14. Catena, R.D., van Donkelaar, P., Halterman, C.I., and **Chou, L-S**: Spatial orientation of attention and obstacle avoidance following concussion. *Experimental Brain Research* 194: 67-77, 2009.
15. Silsupadol, P., Lugade, V., Shumway-Cook, A., van Donkelaar, P., **Chou, L-S.**, Mayr, U., Woollacott, MH: Training-related Changes in Dual-task Walking Performance of Elderly Persons with Balance Impairment: A Double-blind, Randomized Controlled Trial. *Gait and Posture* 29: 634-639, 2009.
16. Siu KC, **Chou, L-S**, Mayr U, van Donkelaar P, Woollacott MH: Attentional mechanisms contributing to balance constraints during gait: the effects of balance impairments. *Brain Research* 1248:59-67, 2009.

17. Catena, R.D., van Donkelaar, P., and **Chou, L-S.**: Different gait paradigms distinguish immediate vs. long-term effects of concussion. *Journal of NeuroEngineering and Rehabilitation* 6:25, 2009.
  18. Mandeville, D., Osternig, L.R., Lantz, B.A., Mohler, C.G. and **Chou, L-S.**: A multivariate statistical ranking of clinical and gait measures before and after total knee replacement. *Gait and Posture* 30: 197-200, 2009.
  19. Mandeville, D., Osternig, and **Chou, L-S.**: The association between knee flexion, vertical center of mass excursion and lower extremity muscle work for end-stage knee osteoarthritis. *Journal of Musculoskeletal Research* 12 (2):77-84, 2009.
- 2008
20. Mandeville, D., Osternig, L.R., **Chou, L-S.**: The effect of total knee replacement surgery on gait stability. *Gait and Posture* 27: 103-109, 2008.
  21. Siu, K-C, Catena, R.D., **Chou, L-S**, van Donlelaar, P., Woollacott, M.H.: Effects of secondary task on obstacle avoidance in healthy young adults. *Experimental Brain Research* 184(1): 115-20, 2008.
  22. Mandeville, D., Osternig, L.R., **Chou, L-S.**: The effect of total knee replacement on knee varus angle and moment during walking and stair ascent. *Clinical Biomechanics* 23: 1053-1058, 2008.
  23. Parker, T.M., Osternig, L.R., van Donkelaar, P., and **Chou, L-S.**: Gait stability in athletes and non-athletes following concussion. *Medical Engineering & Physics* 30: 959-967, 2008.
  24. Siu, K-C, Lugade, V., **Chou, L-S**, van Donlelaar, P., Woollacott, M.H.: Dual-task interference during obstacle clearance in healthy and balance-impaired older adults. *Journal of Aging Clinical and Experimental Research* 20(4):349-54, 2008.
  25. Huang, S-C, Lu, T-W, Chen, H-L, Wang, T-M, and **Chou, L-S.**: Age and height effects on center of mass and center of pressure inclination angles during obstacle-crossing. *Medical Engineering & Physics* 30: 968-975, 2008.
  26. Lugade, V., Klausmeier, V., Jewett, B., Collis, D. and **Chou, L-S.**: Short-term recovery of balance control after total hip arthroplasty. *Clinical Orthopaedics and Related Research* 466: 3051-3058, 2008.
  27. Siu KC, **Chou, L-S**, Mayr U, van Donkelaar P, Woollacott MH: Does inability to allocate attention contribute to balance constraints during gait in older adults? *Journals of Gerontology: Medical Science* 63A (12), 1364-1369, 2008.
- 2007
28. DeHaan, A., Halterman, C., Langan, J.; Drew, A.S., Osternig, L.R., **Chou, L-S.**, van Donkelaar, P.: Cancelling planned actions following mild traumatic brain injury. *Neuropsychologia* (45): 406-411, 2007.
  29. Catena, R.D., van Donkelaar, P. and **Chou, L-S.**: Cognitive task effects on gait stability following concussion. *Experimental Brain Research* 176: 23-31. 2007.
  30. Catena, R.D., van Donkelaar, P., **Chou, L-S.**: Altered balance control following concussion is better detected with an attention test during gait. *Gait and Posture* 25 (3): 406-411, 2007.
  31. Mandeville, D., Osternig, L.R., **Chou, L-S.**: The effect of total knee replacement on dynamic support of the body during walking and stair ascent. *Clinical biomechanics* 22: 787-794, 2007.
  32. Lee, H-J and **Chou, L-S.**: Balance control during stair negotiation in older adults. *Journal of Biomechanics* 40: 2530-2536, 2007.
  33. Cherg, R-J, **Chou, L-S**, Su, F-C, Shaughnessy, W.J., Kaufman, K.R.: Using motion of whole-body center of mass to assess the balance during gait of children with spastic cerebral palsy. *Journal of Medical and Biological Engineering* 27 (3): 150-155, 2007.
  34. Drew, A., Langan, J., Halterman, C., Osternig, L.R., **Chou, L-S.**, van Donkelaar, P.: Attentional disengagement dysfunction following mTBI assessed with the gap saccade task. *Neuroscience Letters* 417(1): 61-65, 2007.

35. Parker, T.M., Osternig, L.R., van Donkelaar, P., and **Chou, L-S.**: Recovery of cognitive and dynamic motor function following concussion. *British Journal of Sports Medicine* 41: 868-873, 2007.
- 2006
36. Kaufman, K.R., Brey, R.H., **Chou, L-S.**, Rabatin, A., Brown, A.W., Basford, J.R.: Comparison of subjective and objective measurements of balance disorders following traumatic brain injury. *Medical Engineering and Physics* 28 (3): 234-239, 2006.
37. Halterman, C.I., Langan, J., Rodriguez, E., Osternig, L.R., **Chou, L-S.**, and van Donkelaar, P.: Tracking the recovery of visuospatial attention deficits in mild traumatic brain injury. *Brain* 129: 747-753, 2006.
38. Lee, H-J. and **Chou, L-S.**: Detection of gait instability using the center of mass and center of pressure inclination angles. *Archives of Physical Medicine and Rehabilitation* 87: 569-575, 2006.
39. van Donkelaar, P., Osternig, L.R., and **Chou, L-S.**: Attentional and biomechanical deficits interact after mild traumatic brain injury. *Exercise and Sport Sciences Reviews* 34 (2):77-82, 2006.
40. Parker, T.M., Osternig, L.R., van Donkelaar, P., and **Chou, L-S.**: Gait stability following concussion. *Medicine and Science in Sports and Exercise* 38 (6): 1032-1040, 2006.
41. McIntire, A., Langan, J., Halterman, C., Drew, A., Osternig, L.R., **Chou, L-S.**, and van Donkelaar, P.: The influence of mild traumatic brain injury on the temporal distribution of attention. *Experimental Brain Research* 174: 361-366, 2006.
- 2005 and earlier
42. Hahn, M.E., Farley, A.M., Lin, V., and **Chou, L-S.**: Neural network estimation of balance control during locomotion. *Journal of Biomechanics* 38: 717-724, 2005.
43. Parker, T.M., Osternig, L.R., Lee, H-J., van Donkelaar, P., **Chou, L-S.**: The effect of divided attention on gait stability following concussion. *Clinical Biomechanics* 20/4: 389-395, 2005.
44. Hahn, M.E. and **Chou, L-S.**: A model for detecting balance impairment and estimating risk of falls in the elderly. *Annals of Biomedical Engineering* 33 (6): 811-820, 2005.
45. van Donkelaar, P., Langan, J., Rodriguez, E., Drew, A., Halterman, C., Osternig, L.R. and **Chou, L-S.**: Attentional deficits in concussion. *Brain Injury* 19 (12): 1031-1039, 2005.
46. Hahn, M.E., Lee, H-J., and **Chou, L-S.**: Increased muscular challenge in older adults during obstructed gait. *Gait and Posture* 22 (4): 356-361, 2005.
47. Hahn, M.E. and **Chou, L-S.**: Age-related reduction in sagittal plane center of mass motion during obstacle crossing. *Journal of Biomechanics* 37: 837-844, 2004.
48. **Chou, L-S.**, Kaufman, K.R., Walker, A.E., Brey, R.H., and Basford, J.R.: Dynamic instability during obstructed gait following traumatic brain injury. *Gait and Posture* 20/3: 245-254, 2004.
49. Basford, J.R., **Chou, L-S.**, Kaufman, K.R., Brey, R.H., Malec, J.F., Moessner, A.M., Walker, A., and Brown, A.: An assessment of gait and balance instability following traumatic brain injury. *Archives of Physical Medicine & Rehabilitation* 84:343-349, 2003.
50. Hahn, M.E. and **Chou, L-S.**: Can motion of individual body segments identify dynamic instability in the elderly? *Clinical Biomechanics* 18: 737-744, 2003.
51. **Chou, L-S.**, Hahn, M.E., Brey, R.H., and Kaufman, K.R.: Medio-lateral motion of the center of mass during obstacle crossing distinguishes elderly individuals with imbalance. *Gait and Posture* 18/3: 125-133, 2003.
52. **Chou, L-S.**, Kaufman, K.R., Brey, R.H., and Draganich, L.F.: Motion of the whole body's center of mass when stepping over obstacles of different heights. *Gait and Posture* 13: 17-26, 2001.
53. Osborne, M.D., **Chou, L-S.**, Laskowski, E.R., Smith, J., and Kaufman, K.R.: The effect of ankle disk training on muscle reaction time in subjects with previous history of ankle sprain. *American Journal of Sports Medicine* 29: 627-632, 2001.

54. Draganich, L.F., Whitehurst, J.B., **Chou, L-S.**, Piotrowski, G., Pottenger, L.A., and Finn, H.A.: The effects of the rotating-hinge total knee replacement on gait and stair stepping. *The Journal of Arthroplasty* 14: 743-755, 1999.
55. **Chou, L-S.** and Draganich, L.F.: Placing the trailing foot closer to an obstacle reduces flexion of the hip, knee, and ankle to increase the risk of tripping. *Journal of Biomechanics* 31: 685-691, 1998.
56. **Chou, L-S.** and Draganich, L.F.: Increasing obstacle height and decreasing toe-obstacle distance affect the joint moments of the stance limb differently when stepping over an obstacle. *Gait & Posture* 8: 186-204, 1998.
57. **Chou, L-S.**, Draganich, L.F., and Song, S.M.: Minimum energy trajectories of the swing ankle when stepping over obstacles of different heights. *Journal of Biomechanics* 30: 115-120, 1997.
58. **Chou, L-S.** and Draganich, L.F.: Stepping over an obstacle increases the motions and moments of the joints of the trailing limb in young adults. *Journal of Biomechanics* 30: 331-337, 1997.
59. **Chou, L-S.**, Song, S.M., and Draganich, L.F.: Predicting the kinematics and kinetics of gait based on the optimum trajectory of the swing limb. *Journal of Biomechanics* 28: 377-385, 1995.
60. **Chou, L-S.** and Song, S.M.: Geometric work of manipulators and path planning based on minimum energy consumption. *ASME Journal of Mechanical Design* 114: 414-421, 1992.

### **Book Chapters**

**Hahn, ME.**, Farley, A., and **Chou, L-S**: Neural Network Models for Estimation of Balance Control, Detection of Imbalance, and Estimation of Falls Risk. *Computational Intelligence for Movement Sciences: Neural Networks and Other Emerging Techniques*, Editors: Rezaul Begg and Marimuthu Palaniswami, Idea Group, Inc., Hershey, PA. 2006.

### **Manuscripts Submitted/under Revision**

1. Chen, H-L., Lu, T-W., and **Chou, L-S.**: Inter-joint coordination of the locomotor system following concussion. Submitted to *Gait and Posture*.
2. Lugade, V. and **Chou, L-S.**: Gait balance control in young, adults, older adults, and elderly fallers. Submitted to *Archives of Physical Medicine and Rehabilitation*.
3. Becker, J., Pisciotta, E., James, S., Osternig, LR, and **Chou, L-S.**: Does foot strike pattern predict loading rates for shod or barefoot running? Submitted to *Journal of Biomechanics*.
4. Zhang, X., Fan, G., and Chou, L-S.: Two-layer dual gait generative models for human motion estimation from a single camera. Submitted to *Image and Vision Computing*.
5. Chen, T and Chou, L-S.: Altered center of mass control during sit-to-walk in elderly adults with and without history of falling. Submitted to *Gait and Posture*.
6. Fujimoto, M., Hsu, W-L., Woollacott, M., and Chou, L-S.: Weakness in ankle dorsiflexors reduces the ability to restore balance during a stance perturbation in the elderly. Submitted to *Gait and Posture*.
7. Howell, D., Osternig, LR, vanDonkelaar, P, and Chou, L-S: Neuropsychological and attentional testing following sport concussion in adolescents. Submitted to *American Journal of Sports Medicine*.

### **Manuscripts under Preparation**

1. Lugade, V, Farley, A., and Chou, L-S.: Identification of retrospective and prospective fall risk among the elderly.
2. Lugade, V, Farley, A., Lin, V. and Chou, L-S.: A combination of gait measures better identifies elderly fallers: longitudinal changes in clinical and gait measures.
3. Lugade, V., Chen, C-J., Erickson, C., Fujimoto, M., Juan, J.S., Karduna, A. R., and Chou, L-S.: Comparison of electromagnetic and optical systems during dynamic motion measurement.

4. Chen, C J. and Chou, L-S: Electromyography is better in quantifying muscular demands than joint moments when co-contraction exists.
5. Chou, L-S, Bevers, J.T., Chiu, S-L.: Foot-obstacle proximity dictates swing hip-knee coordination during obstacle crossing in young and elderly individuals.
6. Chou, L-S., Amali, S., and Lugade, V.: Effect of total hip arthroplasty on contribution of individual joints to dynamic support during walking.
7. Becker, J, Pisciotto, E, K, James, S, Osternig, L, and Chou, L-S: Center of pressure trajectory differences between shod and barefoot running.

#### **Peer-reviewed Conference Papers & Abstracts**

1. Chou, L.S. and Song, S.M.: Geometric work of manipulators and path planning based on minimum energy consumption. *ASME Flexible Mechanism, Dynamics, and Robot Trajectories*: 319-326, 1990.
2. Chou, L.S., Song, S.M., and Draganich, L.F.: Predicting the kinematics and kinetics of gait based on the optimum trajectory of the swing leg. *Proceeding of The Second North American Congress on Biomechanics*: 375-376, 1992.
3. Chou, L.S., Draganich, L.F., and Song, S.M.: Predicting the kinematics and kinetics of gait using dynamic programming. *ASME Advances in Bioengineering* 26: 523-526, 1993.
4. Chou, L.S., Draganich, L.F, and Song, S.M.: Minimum energy trajectory of the swing ankle when stepping over an obstacle. *ASME Advances in Bioengineering* 28: 189-190, 1994.
5. Draganich, L.F., Whitehurst, J.B., Chou, L.S., Piotrowski, G.A., and Finn, H.A.: Gait and ascending and descending steps in patients with the rotating-hinge total knee replacement. *The 62nd Annual Meeting of American Academy of Orthopaedic Surgeons*: paper no. 291, 1995.
6. Chou, L.S. and Draganich, L.F.: Kinetics of the stance limb when stepping over obstacles of different heights. *ASME Proceedings of the Bioengineering Conference*, Bed-Vol. 29: 285-286, 1995.
7. Chou, L.S., Draganich, L.F., and Song, S.M.: Minimum energy trajectory of the swing ankle when stepping over obstacles of different heights. *Proceedings of the 19th Annual Meeting of ASB*, pp. 11-12, 1995.
8. Chou, L.S. and Draganich, L.F.: Kinetics of the trailing limb when stepping over obstacles of different heights. *Proceedings of the 19th Annual Meeting of ASB*, pp. 219-220, 1995.
9. Chou, L.S. and Draganich, L.F.: Kinematics of the lower limbs when stepping over obstacles of different heights. *Proceedings of the 19th Annual Meeting of ASB*, pp. 217-218, 1995.
10. Chou, L.S. and Draganich, L.F.: Effects of limb-obstacle proximity on the joint moments of the trailing limb. *Proceedings of the 20th Annual Meeting of ASB*, pp. 33-34, 1996.
11. Chou, L.S. and Draganich, L.F.: Effects of obstacle height and proximity on temporal-distance measurements and on kinematics of the trailing limb. *Proceedings of the 20th Annual Meeting of ASB*, pp. 137-138, 1996.
12. Draganich, L.F. and Chou, L.S.: Model for producing tripping of the trailing foot when stepping over an obstacle. *ASME Proceedings of the Summer Bioengineering Conference*, pp. 555-556, 1997.
13. Chou, L.S. and Draganich, L.F.: Reducing the distance between an obstacle and the trailing foot during stance reduces the toe-obstacle clearance. *ASME Proceedings of the Summer Bioengineering Conference*, pp. 557-558, 1997
14. Draganich, L.F. and Chou, L.S.: Model for producing tripping of the trailing foot on an obstacle. *Proceedings of the 21st Annual Meeting of ASB*, pp. 212-213, 1997.
15. Chou, L.S. and Draganich, L.F.: The effect of toe-obstacle distance on toe-obstacle clearance of the trailing limb. *Proceedings of the 21st Annual Meeting of ASB*, pp. 67-68, 1997.
16. Chou, L.S. and Draganich, L.F.: Joint motion patterns of the leading and trailing limbs when stepping over an obstacle. *Proceedings of the 3rd World Congress of Biomechanics*, pp. 377, 1998.



17. Chou, L.S., Kaufman, K.R., Brey, R.H., and An, K.N.: Stepping over an obstacle affects joint moments of the leading and trailing limbs during stance differently. *Proceedings of the NACOB III*, pp. 119-120, 1998.
18. Chou, L.S., Brey, R.H., and Kaufman, K.R.: Displacement of the body's center of mass during obstacle crossing: differences between elderly healthy adults and elderly patients with balance problems. *Proceedings of the Satellite to the Society for Neuroscience Meeting- Identifying Control Mechanisms for Postural Behaviors*: 35-36, 1998.
19. Chou, L.S., Brey, R.H., and Kaufman, K.R.: Correlation between posturography and gait assessment during obstacle crossing in healthy young and elderly adults and elderly patients with imbalance. *Proceedings of 22<sup>nd</sup> ARO Midwinter Meeting*: 197, 1998.
20. Chou, L.S., Brey, R.H., and Kaufman, K.R.: The effects of age on control of body's center of mass during obstacle crossing. *Proceedings of the 4<sup>th</sup> GCMA Annual Meeting, Gait & Posture* 9: 124, 1999.
21. Chou, L.S., Brey, R.H., and Kaufman, K.R.: Control of the whole body's center of mass when stepping over obstacles of different heights. *Proceedings of the 14<sup>th</sup> Symposium of the International Society for Posture and Gait Research, Gait & Posture* 9: S27, 1999.
22. Chou, L.S., Kaufman, K.R., and Brey, R.H.: Correlation between muscle strength and balance control when negotiating obstacles. *Transactions of the 46<sup>th</sup> Annual Meeting of the Orthopaedic Research Society*, pp. 315. 2000.
23. Brey, R.H., Chou, L.S., and Kaufman, K.R.: Need for 3-D gait analysis of patients with gait unsteadiness: case presentation. *Proceedings of the 23<sup>rd</sup> ARO Midwinter Meeting*, 2000.
24. Chou, L.S., Kaufman, K.R., and Brey, R.H.: Control of the center of mass when stepping over obstacles of different heights. *Proceedings of the 5<sup>th</sup> GCMA Annual Meeting, Gait & Posture* 11: 163, 2000.
25. Chou, L.S., Kaufman, K.R., and Brey, R.H.: Correlation between isometric muscle strength and balance control while negotiating obstacles. *Proceedings of the 5<sup>th</sup> GCMA Annual Meeting, Gait & Posture* 11: 111, 2000.
26. Cherng, R.J., Chou, L.S., Shaughnessy, W.J., Su, F.C., and Kaufman, K.R.: Measurement of dynamic balance control to evaluate the surgical outcome for children with spastic cerebral palsy. *Proceedings of the 5<sup>th</sup> GCMA Annual Meeting, Gait & Posture* 11: 154, 2000.
27. Chou, L.S., Kaufman, K.R., and Brey, R.H.: Stepping over an obstacle challenges dynamic stability in the elderly adult. *Proceedings of the 24<sup>th</sup> Annual Meeting of ASB*, pp. 93-94, 2000.
28. Cherng, R.J., Chou, L.S., Su, F.C., Shaughnessy, W.J., Kaufman, K.R.: Medial-lateral motion of the whole body's center of mass is not affected by walking speed in children. *Proceedings of the International Society of Biomechanics XVIIIth Congress*, July, 2001.
29. Hahn, M.E., Chou, L.S., Kaufman, K.R., and Brey, R.H.: Foot elevation and whole body medial-lateral sway in elderly patients with balance disorders. *Proceedings of the 25<sup>th</sup> Annual Meeting of ASB*, pp. 241-242, 2001.
30. Hahn, M.E., Chou, L.S., Kaufman, K.R., and Brey, R.H.: Can trajectories of individual bony landmarks indicate medial-lateral instability during obstacle crossing? *Proceedings of the 25<sup>th</sup> Annual Meeting of ASB*, pp. 251-252, 2001.
31. Brey, R.H., Chou, L.S., Basford, J.R., Shallop, J.K., Kaufman, K.R., Walker, A.E., Malec, J.F., Moessner, A.M., Brown, A.W.: Optokinetic Testing of Patients with Traumatic Brain Injury Compared to Normal Subjects. *Annual Meeting of the Association for Research in Otolaryngology*, St. Petersburg Beach, Florida, January 2002.
32. Hahn, M.E. and Chou, L.S.: Coordination of hip and knee flexion during obstacle crossing. *The 7<sup>th</sup> GCMA Annual Meeting*, 2002.
33. Walker, A.E., Basford, J.R., Chou, L.S., Brey, R.H., and Kaufman, K.R.: Center of mass gait patterns of patients with mild to moderate traumatic brain injury. *The 7<sup>th</sup> GCMA Annual Meeting*, 2002.

34. Chou, L.S., Walker, A.E., Kaufman, K.R., Brey, R.H., and Basford, J.R.: Dynamic stability during gait in post-traumatic brain injury. *The 21st Annual Symposium of the Brain Injury Association of America*, Minneapolis, Minnesota, July 24-27, 2002.
35. Kaufman, K.R., Brey, R.H., Chou, L.S., Rabatin, A.E., and Basford, J.R.: Comparison of subjective and objective measurements of balance disorders following traumatic brain injury. *The IV Congress on Biomechanics*, Calgary, Canada, August 4-9, 2002.
36. Chou, L.S., Walker, A.E., Kaufman, K.R., Brey, R.H., and Basford, J.R.: Identifying dynamic instability during obstructed gait following traumatic brain injury. *The IV Congress on Biomechanics*, Calgary, Canada, August 4-9, 2002.
37. Chen, S-J. and Chou, L.S.: Increases in kinetic demands of the supporting limb during obstacle crossing. *The IV Congress on Biomechanics*, Calgary, Canada, August 4-9, 2002.
38. Hahn, M.E. and Chou, L.S.: A parameter to describe coordination of hip and knee flexion during obstructed gait. *The IV Congress on Biomechanics*, Calgary, Canada, August 4-9, 2002.
39. Hahn, M.E. and Chou, L.S.: Subtle effect of walking speed on medio-lateral center of mass motion in young adults. *The IV Congress on Biomechanics*, Calgary, Canada, August 4-9, 2002.
40. Hahn, M.E. and Chou, L.S.: Mapping neuromuscular inputs to whole body dynamic stability: an artificial neural network model. *Proceedings of the International Society of Biomechanics XIXth Congress*, p. 141.
41. Hahn, M.E., Lee, H.J., Koshida, S., and Chou, L.S.: Neuromuscular challenge in the elderly during locomotion: an EMG study. *Proceedings of the International Society of Biomechanics XIXth Congress*, p. 140.
42. Hahn, M.E., Lee, H.J., and Chou, L.S.: Dynamic stability maintained in elderly with conservative antero-posterior strategy. *Proceedings of the International Society of Biomechanics XIXth Congress*, p. 139.
43. Wiest, A.S., Chen, S.J., and Chou, L.S.: Inter-marker distance changes at the foot during the stance phase of walking. *Proceedings of the 2003 Annual Meeting of American Society of Biomechanics*.
44. Lee, H-J., Hahn, M.E., Koshida, S., and Chou, L.S.: Identifying muscular challenges during locomotion in the elderly: an EMG study. *Proceedings of the 2003 Annual Meeting of American Society of Biomechanics*.
45. Mandeville, D., Osternig, L., Chou, L-S., Hahn, M.E., and Chen, S.J.: Stance phase moment patterns pre and post total knee replacement. *Proceedings of the 2003 Annual Meeting of American Society of Biomechanics*.
46. Langan, J., Rodreguez, E., Osternig, L., Chou, L-S, and van Donkelaar, P.: Attentional and saccadic deficits following concussion. *Proceedings of the 2003 Neuroscience Conference*.
47. Ho, Y., Zhuang, H., Lin, X., Chen, H., and Chou, L-S.: Use of neural network to predict the motion pattern of golf swing. *Proceedings of the XIIIth International Conference on Mechanics in Medicine and Biology*.
48. Chen, S-J. and Chou, L-S.: Effects of commercial foot/arch support on changes in arch height during walking. *Proceedings of the 2004 GCMAS Annual Meeting*, pp. 206-207.
49. Lee, H-J., Parker, T.M., Osternig, L., and Chou, L-S.: Longitudinal evaluation of dynamic stability in college athletes after concussion. *Proceedings of the 2004 GCMAS Annual Meeting*, pp. 234-235.
50. Chou, L-S., Lee, H-J., and Hahn, M.E.: Quantification of muscular challenge during obstacle crossing in the elderly: EMG vs. joint moment. Presented in *the 2004 Annual Meeting of American Society of Biomechanics*, Portland, OR, September 8-11, 2004
51. Lee, H-J., and Chou, L-S.: Sagittal and frontal sway angles during locomotion in the elderly. Presented in *the 2004 Annual Meeting of American Society of Biomechanics*, Portland, OR, September 8-11, 2004.
52. Chou, L-S. and Hahn, M.E.: A model for detecting balance impairment and estimating the risk of falling in the elderly. Presented in *the 2<sup>nd</sup> World Congress for Chinese Biomedical Engineers*, Beijing, China, September 27-30, 2004.
53. Chou, L-S., Parker, T.M., and Osternig, L.R.: Gait stability following traumatic brain injury. Presented in *the 2<sup>nd</sup> World Congress for Chinese Biomedical Engineers*, Beijing, China, September 27-30, 2004.

54. Chou, L-S, Parker, T.M., Osternig, L.R., and van Donkelaar, P.: Gait stability following concussion in college age adults. *Brain Injury* 19 (S1): 80.
55. van Donkelaar, P., Langan, J., Halterman, C., Osternig, L., Chou, L-S.: Mild traumatic brain injury affects both the spatial and temporal components of attention. *Brain Injury* 19 (S1): 106.
56. Lee, H-J, Lin, V., and Chou, L-S: Influence of gait velocity on dynamic stability during walking in elderly adults. Presented in *the 2005 GCMAS meeting*, April 6 – 9, Portland, OR.
57. Parker, T.M., Osternig, L.R., Lee, H-J, van Donkelaar, P., and Chou, L-S: The effect of divided attention on gait stability following concussion. Presented in *the 2005 GCMAS meeting*, April 6 – 9, Portland, OR.
58. Catena, R.D., Parker, T.M., van Donkelaar, P., Osternig, L.R., and Chou, L-S: Secondary task effects on gait stability in concussed college patients. Presented in *the 2005 GCMAS meeting*, April 6 – 9, Portland, OR.
59. Parker, TM, Catena, R., Osternig, L., Chou, L-S: Deficits in dynamic balance control following concussion. Presented in *the 2005 National Injury Prevention and Control Conference*, May 9-11, Denver, CO.
60. Parker TM, Catena RD, Osternig LR, van Donkelaar P, Chou L-S: Dynamic Stability on Physical and Mental Tasks Following Concussion. Accepted for *the 2005 NATA meeting*.
61. Parker TM, Osternig LR, van Donkelaar P, Chou L-S: Dynamic Motor Function Following Concussion. Accepted for *the 2005 ACSM meeting*, June 2005.
62. Siu, K-C., Woollacott, M., van Donkelaar, P., and Chou, L-S: Attention demands of postural control in aging during obstacle clearance: a preliminary study. Presented in *the ISPGR 2005 XVIIth Conference*, Marseille, France, May 29 - June 2, 2005.
63. Hahn, ME and Chou, L-S: A neural network model for detection of balance impairment and estimation of falls risk in the elderly. *Proceedings of the 2005 Summer Bioengineering Conference*, Vail, Colorado. June 22 -26, 2005.
64. Catena, R., van Donkelaar, P., Parker, T., Osternig, L., Chou, L-S.: Maintenance of gait stability in concussed college patients during dual tasks. *Proceedings of the combined XXth ISB and 29th ASB meetings*, Cleveland, Ohio, August 1-5, 2005.
65. Lee, H-J and Chou, L-S.: Dynamic stability and energy efficiency during different self-selected walking speeds. *Proceedings of the combined XXth ISB and 29th ASB meetings*, Cleveland, Ohio, August 1-5, 2005.
66. Chen, S-J. and Chou, L-S: Effects of impeded foot arch height on calcaneal eversion and ankle joint forces during gait. *Proceedings of the combined XXth ISB and 29th ASB meetings*, Cleveland, Ohio, August 1-5, 2005.
67. Parker, T., Catena, R., Osternig, L., van Donkelaar, P., Chou, L-S.: Longitudinal study of gait stability after concussion. *Proceedings of the combined XXth ISB and 29th ASB meetings*, Cleveland, Ohio, August 1-5, 2005.
68. Chen, S-J. and Chou, L-S.: Effects of impeded medial longitudinal foot arch on plantar fascia during walking. The 2<sup>nd</sup> Asian Pacific Conference on Biomechanics, Taipei, Taiwan, November 23 – 25, 2005.
69. Chou, L-S., Parker, T.M., Catena, R., Osternig, LR: Gait stability following concussion (podium presentation). The 5<sup>th</sup> World Congress of Biomechanics. July 29-August 4, 2006, Munich, Germany. *Journal of Biomechanics* 39: S1: pp S192.
70. Klausmeier, VM, Chou, L-S., Gum, W, Jewett, B., Collis, D.: Hip abductor function after total hip replacement: a comparison of the anterior and lateral approach (podium presentation). The 5<sup>th</sup> World Congress of Biomechanics. July 29-August 4, 2006, Munich, Germany. *Journal of Biomechanics* 39: S1: pp S67.
71. Catena, DR, van Donkelaar, P., and Chou, L-S: Different gait paradigms distinguish immediate vs. long-term effects of concussion (thematic poster presentation). *Proceedings of the 2006 Annual Meeting of American Society of Biomechanics*, September 6-9, Blacksburg, VA.
72. Siu, K-C., Lugade, V., Chou, L-S., van Donkelaar, P., and Woollacott, M.: Secondary task effect on gait stability during obstacle clearance in older adults (poster presentation). *Proceedings of the 2006 Annual Meeting of American Society of Biomechanics*, September 6-9, Blacksburg, VA.

73. Lee, H-J. and Chou, L-S.: Gait stability during stair descent in older adults (poster presentation). *Proceedings of the 2006 Annual Meeting of American Society of Biomechanics*, September 6-9, Blacksburg, VA.
74. Mandeville, D., Chou, L-S., and Osternig, L.R.L Effect of total knee replacement on gait stability (poster presentation). *Proceedings of the 2006 Annual Meeting of American Society of Biomechanics*, September 6-9, Blacksburg, VA.
75. Mandeville, D., Chou, L-S., and Osternig, L.R.L Effect of total knee replacement on joint moments during level walking and stair ascent (podium presentation). *Proceedings of the 2006 Annual Meeting of American Society of Biomechanics*, September 6-9, Blacksburg, VA.
76. Parker, T.M., Osternig, L.R., Chou, L-S.: Gait velocity and sway in athletes and non-athletes following concussion (thematic poster presentation). *Proceedings of the 2006 Annual Meeting of American Society of Biomechanics*, September 6-9, Blacksburg, VA.
77. Chou, L-S. and Lee, H-J: Balance control during stair negotiation (podium presentation). *The 2007 GCMAS Meeting*, April 11-14, Springfield, MA.
78. Lugade, V., Klausmeier, V., Jewett, B., Collis, D., and Chou, L-S.: Gait stability following total hip replacement (poster presentation). *The 2007 GCMAS Meeting*, April 11-14, Springfield, MA.
79. Piazza, S., Chou, L-S., Denniston, N., McMulkin, M., Quigley, E., Richards., J., and Schwartz, M.: A proposed standard for assessing the marker-location accuracy of video-based motion analysis systems (podium presentation). *The 2007 GCMAS Meeting*, April 11-14, Springfield, MA.
80. Catena, R., Halterman, C., van Donkelaar, P. And Chou, L-S.: The spatial orientation of attention during obstacle crossing following mild traumatic brain injury (podium presentation). *The 2007 GCMAS Meeting*, April 11-14, Springfield, MA.
81. Ewers, S.F. and Chou, L-S.: Effects of below and above ankle orthosis on gait stability in transtibial amputees (poster presentation). *Proceedings the 12<sup>th</sup> World Congress of the International Society for Prosthetics and Orthotics*, Vancouver, Canada, July 2007.
82. Chen, C-J. and Chou, L-S.: Center of mass and ankle inclination angles: an alternative detection of gait instability (podium presentation). *Proceedings of the ISB XXIth Congress*, Taipei, Taiwan, July 1-5, 2007.
83. Chou, L-S. and Lee, H-J.: Balance control during stair negotiation (podium presentation). *Proceedings of the ISB XXIth Congress*, Taipei, Taiwan, July 1-5, 2007.
84. Catena, R., Halterman, C., van Donkelaar, P. And Chou, L-S.: The relationship between spatial orientation of attention and obstacle crossing parameters following mild traumatic brain injury (podium presentation). *Proceedings of the ISB XXIth Congress*, Taipei, Taiwan, July 1-5, 2007.
85. Ewers, S.F. and Chou, L-S.: Effects of below and above ankle orthoses on gait stability in partial foot amputees (podium presentation). *Proceedings of the ISB XXIth Congress*, Taipei, Taiwan, July 1-5, 2007.
86. Lee, H-J. and Chou, L-S.: Correlation between muscle strength and gait stability during locomotion (podium presentation). *Proceedings of the ISB XXIth Congress*, Taipei, Taiwan, July 1-5, 2007.
87. Hahn, M.E. and Chou, L.S.: Detecting balance impairment and estimating falls risk in the elderly (podium presentation). *Proceedings of the ISB XXIth Congress*, Taipei, Taiwan, July 1-5, 2007.
88. Lugade, V., Klausmeier, V., Jewett, B., Collis, D., and Chou, L-S.: Gait stability following total hip replacement (podium presentation). *Proceedings of the ISB XXIth Congress*, Taipei, Taiwan, July 1-5, 2007.
89. Parker, T.M., Osternig, L.R., Chou, L-S.: Frontal plane center of mass motion with cognitive perturbation in athletes and non-athletes following concussion (podium presentation). *Proceedings of the ISB XXIth Congress*, Taipei, Taiwan, July 1-5, 2007.
90. Siu, K-C., Lugade, V., Chou, L-S., van Donkelaar, P., and Woollacott, M.: Cognitive functions impact gait stability during obstructed walking in elderly (podium presentation). *Proceedings of the ISB XXIth Congress*, Taipei, Taiwan, July 1-5, 2007.

91. Lugade, V., Klausmeier, V., Jewett, B., Collis, D., and Chou, L-S.: Gait stability following total hip replacement (podium presentation). Proceedings of the 2007 ASB meeting, Stanford University, August 22-25, 2007.
92. Chen, C-J. and Chou, L-S.: Center of mass and ankle inclination angles: an alternative detection of gait instability (poster presentation). Proceedings of the 2007 ASB meeting, Stanford University, August 22-25, 2007.
93. Catena, R., Halterman, C., van Donkelaar, P. And Chou, L-S.: Obstacle avoidance with varying ability to spatially orient attention following mild traumatic brain injury (poster presentation). Proceedings of the 2007 ASB meeting, Stanford University, August 22-25, 2007.
94. Mandeville, D., Osternig, L.R., and Chou, L-S.: A comparison of clinical and gait measures before and after total knee replacement (poster presentation). The 54th Annual Meeting of the Orthopaedic Research Society, March 2-5, 2008, San Francisco, California.
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.
97. Lugade, V, Ewers, S, Chen, C-J, Boonyong, S, Silsupadol, P, and Chou, L-S: Stability margin during gait: identifying balance impairment in the elderly (poster presentation). The 2008 North American Congress on Biomechanics, August 5-9, 2008, University of Michigan.
98. Lugade, V, Ewers, S, Chen, C-J, Boonyong, S, Silsupadol, P, and Chou, L-S: Detection of gait imbalance using extrapolated center of mass (poster presentation). The 2008 North American Congress on Biomechanics, August 5-9, 2008, University of Michigan.
99. Mandeville, D., Osternig, L., and Chou, L-S: Stiff knee pattern alters vertical center of mass and lower limb muscle work for end stage knee osteoarthritis (poster presentation) The 14th Annual Gait and Clinical Movement Analysis Society (GCMAS) Meeting, Denver, CO, USA March 10-13, 2009.
100. Feng, J., Chou, L-S, Pierce, R., Do, P., and Aiona, M.: Normative data of COM motion in children, adolescents, and young adults: balance, energy transfer, and age differences (poster presentation). The 14th Annual Gait and Clinical Movement Analysis Society (GCMAS) Meeting, Denver, CO, USA March 10-13, 2009.
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.
102. Lugade, V., Wu, A., and Chou, L-S.: Gait asymmetry following THA – anterior vs. lateral approach (podium presentation). The 14th Annual Gait and Clinical Movement Analysis Society (GCMAS) Meeting, Denver, CO, USA March 10-13, 2009.
103. Chiu, S-L and Chou, L-S.: Balance adjustment during obstacle crossing in patients with total hip arthroplasty (poster presentation). The ASB 2009 Annual Meeting, August 26-29, 2009.
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.
105. Zhang, X., Fan, G. and Chou, L-S.: Two-layer gait generative models for estimating unknown human gait kinematics. *Proc. the 2nd International Workshop on Machine Learning for Vision-based Motion Analysis (MLVMA'09)*, in conjunction with ICCV2009, Japan, Oct. 2009.
106. Chou, L-S., Breloff, S., and Becker, J.: Dual-task effect on joint kinetics during gait in individuals following mild traumatic brain injury. The 8<sup>th</sup> World Congress on Brain Injury (podium presentation). Washington, DC, March 10-14, 2010.

107. Chen, H-L., Lu, T-W., and Chou, L-S.: Inter-joint coordination of the lower extremities during gait following mTBI. The 8<sup>th</sup> World Congress on Brain Injury (poster presentation). Washington, DC, March 10-14, 2010.
108. Chiu, S-L and Chou, L-S.: Altered inter-joint coordination during walking in patients with total hip arthroplasty. Accepted to 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 6<sup>th</sup> 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). Accepted to 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). Accepted to 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). Accepted to 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. The ISB 2011, Brussels, Belgium (poster presentation).
119. Lugade, V and Chou, L-S: Balance control characteristics during gait of older adults and fallers. The ISB 2011, Brussels, Belgium (poster presentation).
120. Becker, J, Sinsurin, K, Pisciotto, E, James, S, Osternig, L, and Chou, L-S: Foot strike pattern does not predict loading rates during shod or barefoot running. The ISB 2011, Brussels, Belgium (podium presentation).
121. Chiu, S-L and Chou, L-S: Effect of walking speed on inter-joint coordination differs between young and elderly adults. The 2011 ASB Annual meeting, Long Beach, CA (podium presentation).
122. Chen, C-J and Chou, L-S: Age-related differences in center of mass control during sit-to-walk. The 2011 ASB Annual meeting, Long Beach, CA (poster presentation).
123. Becker, J, Sinsurin, K, Pisciotto, E, James, S, Osternig, L, and Chou, L-S: Does foot strike pattern predict loading rates during shod or barefoot running? The 2011 ASB Annual meeting, Long Beach, CA (podium presentation).
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. The 2011 ASB Annual meeting, Long Beach, CA (podium presentation).

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. The 2011 ASB Annual meeting, Long Beach, CA (poster presentation).
126. Lo, O-Y, Chou, L-S, and van Donkelaar, P: Visuospatial attention during obstacle crossing: a pilot study. The 2011 Canadian Society for Psychomotor Learning and Sport Psychology (SCAPPS) Annual Meeting. Winnipeg, Canada; October 13-15, 2011 (poster presentation).
127. Ding, M., Fan, G., Zhang, X., Ge, S., and Chou, L-S.: Structure-guided manifold learning for video-based motion estimation. Submitted to the 2012 IEEE International Conference on Image Processing.
128. Lo, O-Y, Chou, L-S, and van Donkelaar, P: Visuospatial attention influences on toe clearance during obstacle crossing. The Joint World Congress of ISPGR and Gait & Mental Function. Trondheim, Norway; June 24-28, 2012 (poster presentation).
129. Chiu, S-L and Chou, L-S: Clinical balance measures are associated with variability of inter-joint coordination during walking in elderly adults. The 2012 ASB Annual Meeting, Gainesville, FL (poster presentation).
130. Fujimoto, M and Chou, L-S: Momentum control strategies during walking in elderly fallers. The 2012 ASB Annual Meeting, Gainesville, FL (podium presentation).
131. Chen, T and Chou, L-S: Altered movement strategy during sit-to-walk in elderly adults with history of falling. The 2012 ASB Annual Meeting, Gainesville, FL (poster presentation).
132. Becker, J, Howey, RJ, Osternig, LR, James, S, and Chou, L-S: Plantar pressure differences between rearfoot and midfoot striking runners during shod running. The 2012 ASB Annual Meeting, Gainesville, FL (poster presentation).
133. Becker, J, Osternig, LR, James, S, and Chou, L-S: Biomechanics of retrospective navicular stress fractures. The 2012 ASB Annual Meeting, Gainesville, FL (poster presentation).
134. Becker, J, Howey, RJ, Osternig, LR, James, S, and Chou, L-S: Vertical load distribution in the metatarsals during shod running. The 2012 ASB Annual Meeting, Gainesville, FL (podium presentation).
135. Breloff, S and Chou, L-S: Quantification of multi-segmental spine movement during gait. The 2012 ASB Annual Meeting, Gainesville, FL (poster presentation).
136. Howell, D, Osternig, LR, and Chou, L-S: Dual-task walking and computerized cognitive tests in assessing concussed high school athletes. The 2012 ASB Annual Meeting, Gainesville, FL (poster presentation).
137. 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. The 2012 Society of Neuroscience (SfN) Annual Meeting. New Orleans, LA; October 13-17, 2012 (poster presentation).