

**Szu-Ping Lee, PT, PhD**

Associate Professor

Department of Physical Therapy, University of Nevada, Las Vegas

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702-895-3086, [szu-ping.lee@unlv.edu](mailto:szu-ping.lee@unlv.edu)**Education**

PhD	University of Southern California, Los Angeles, California	2008-2012	Biokinesiology
MS	University of Florida, Gainesville, Florida	2004-2005	Human Performance/ Biomechanics
BS	National Yang-Ming University, Taipei, Taiwan	1997-2001	Physical Therapy

**Employment**

Jul 2018 – Present

**Associate Professor** – Department of Physical Therapy, University of Nevada, Las Vegas, Nevada. Currently teaching the following courses:

- Physical Agents & Clinical Electrophysiology Lecture and Laboratory
- Applied Research Statistics
- Prosthetics & Orthotics Lecture and Laboratory
- Pathobiomechanics (PhD level)
- Physiological Bases of Rehabilitation (PhD level)
- Interdisciplinary Health Science seminar – Peer Review of Scientific Dissemination (PhD level)

Jan 2013 – Jun 2018

**Assistant Professor** – Department of Physical Therapy, University of Nevada, Las Vegas, Nevada. Taught the following courses:

- Evidence-based Physical Therapy Practice I & II
- Exercise Physiology Lecture and Laboratory
- Clinical Research
- Physical Agents & Clinical Electrophysiology Lecture and Laboratory
- Applied Research Statistics
- Prosthetics & Orthotics Lecture and Laboratory
- Pathobiomechanics (PhD level)
- Physiological Bases of Rehabilitation (PhD level)
- Interdisciplinary Health Science seminar (PhD level)

Aug 2012 – Dec 2012

**Post-Doctoral Fellow** – Department of Physical Therapy, University of Nevada, Las Vegas, Nevada. Responsibilities: instruction and research in the Doctor of Physical Therapy program.

2008 – 2012

**Graduate Assistant** – Division of Biokinesiology and Physical Therapy, University of Southern California, Los Angeles, California. Responsibilities: assist in instruction of the following courses in a Doctor of Physical Therapy program

- Analytical Anatomy
- Clinical Management of Cardiopulmonary Dysfunction
- Clinical Electrophysiology
- Physical Agents in Physical Therapy

2005 – 2007	<p><b>Graduate Assistant</b> – Department of Applied Physiology and Kinesiology, University of Florida, Gainesville, Florida.</p> <p>Responsibilities: assist in instruction of the following courses:</p> <ul style="list-style-type: none"> <li>▪ Applied Anatomy lecture and laboratory</li> </ul>
2002 – 2004	<p><b>Physical Therapist</b> – Department of Rehabilitation, Taiwan Adventist Hospital, Taipei, Taiwan</p> <p>Responsibilities: orthopedic and neurological physical therapy</p>
2002 – 2004	<p><b>Clinical Instructor</b> – Taiwan Adventist Hospital, Taipei City, Taiwan</p> <p>Responsibilities: lecture – Postpartum Back-Pain Prevention Exercise Program</p>

### Honors, Awards, and Fellowships

- 2018 Faculty Institute for Creative Research Assignments: Looking Beyond the Research Paper, fellow. *UNLV Libraries Faculty Institute*
- 2018 Faculty Travel Award, University of Nevada, Las Vegas
- 2017 Faculty Travel Award, University of Nevada, Las Vegas
- 2015 Reviewer of the Year Award, *Journal of Orthopaedic and Sports Physical Therapy* (JOSPT)
- 2015 Faculty Travel Award, University of Nevada, Las Vegas
- 2015 Distinguished Teaching Award, School of Allied Health Sciences, University of Nevada, Las Vegas
- 2015 Training in Grantsmanship for Rehabilitation Research (TIGRR), sponsored by National Center for Medical Rehabilitation Research, *Eunice Kennedy Shriver* National Institute of Child Health and Human Development (NICHD).
- 2014 3<sup>rd</sup> place in Donald W. Reynolds Governor's Cup Business Plan Competition "Dynamend Corporation", faculty advisor.
- 2013 Faculty Opportunity Research Award, University of Nevada, Las Vegas
- 2011 International Society of Biomechanics (ISB) Dissertation Award
- 2010 Most Innovative Award finalist, presented by the USC Stevens Institute for Innovation, Herman-Ostrow School of Dentistry, University of Southern California.
- 2009 Musculoskeletal Biomechanics Biokinesiology and Physical Therapy Research Award 2<sup>nd</sup> place, University of Southern California
- 2007 Young Investigator Award 3<sup>rd</sup> place, 21st Congress of the International Society of Biomechanics
- 2005 Norma Leavitt Fellowship, University of Florida, College of Health and Human Performance
- 2004-2007 Taiwan Ministry of Education Advanced Study Scholarship, Ministry of Education, Taiwan

### Peer Reviewed Publications

- **Referred Articles**
  1. Armour Smith J, Hawkins A, Grant-Beuttler M, Grant-Beuttler R, **Lee SP**. Risk Factors Associated with Low Back Pain in Golfers: a Systematic Review and Meta-analysis. *Sports Health* (accepted, June 2018).
  2. **Lee SP**, Kimber M, Houk K, Armour Smith, J. Insertion and Presence of Fine-Wire Intramuscular Electrodes in the Lumbar Paraspinal Muscles Do Not Affect Muscle Performance and Activation

during High-Exertion Spinal Extension Contractions. *PM & R* (accepted, May 2018).

3. **Lee SP**, Hsu YT, Bair B, Toberman M, Chien LC. Gender and Posture are Significant Risk Factors to Musculoskeletal Symptoms during Touchscreen Tablet Computer Use. *Journal of Physical Therapy Science* 2018 30(6):855-861.
4. Vo DS, Silvernail JF, Tandy R, **Lee SP**, Dufek JS. Effects of Slope on Backward Locomotion: a Kinematic and Electromyographic Analysis of Backward Walking. *EC Orthopaedics* 2018 9(2):34-41.
5. **Lee SP**, Bailey J, Armour Smith J, Barton S, Brown D, Joyce T. Adaptations of Lumbar Biomechanics after Four Weeks of Running Training with Minimalist Footwear and Technique Guidance: Implications for Running-related Lower Back Pain. *Physical Therapy in Sport* 2018 (29):101-107.
6. Turner C, Crow S, Crowther T, Keating B, Saupan T, Pyfer J, Vialpando K, **Lee SP (corresponding author)**. Preventing Non-Contact ACL Injuries in Female Athletes: What Can We Learn from Dancers? *Physical Therapy in Sport* 2018 (31):1-8.
7. **Lee SP**, Gillis C, Ibarra J, Oldroyd D, Zane R. Heel-Raised Foot Posture and Weightlifting Shoes Do Not Affect Trunk and Lower Extremity Biomechanics during a Barbell Back Squat. *Journal of Strength and Conditioning Research* (in press, available online, June 2017).
8. Hickman R, Popescu L, Manzanares R, Morris B, **Lee SP**, Dufek JS. Use of Active Video Gaming in Children with Neuromotor Dysfunction: a Systematic Review. *Developmental Medicine & Child Neurology* 2017 59(9):903-911.
9. LaComb CO, Tandy RD, **Lee SP**, Young JC, Navalta JW. Oral versus Nasal Breathing during Moderate to High Intensity Submaximal Aerobic Exercise. *International Journal of Kinesiology & Sports Science* 2017 5(1).
10. Ho KY, Epstein R, Garcia R, Riley N, **Lee SP**, Turner C. Effects of Patellofemoral Taping on Patellofemoral Joint Alignment and Contact Area. *Journal of Orthopaedic and Sports Physical Therapy* 2016 47(2):115-123.
11. Ho KH, Standerfer A, Ngo S, Daun K, **Lee SP**. Effects of Fast Walking on Tibiofemoral Bone Water Content in Middle-Aged Adults. *Clinical Biomechanics*, 2016(37):65-69.
12. **Lee SP**, Dufek JS, Hickman R, Schuerman S. Influence of Procedural Factors on the Reliability and Performance of the Timed Up and Go Test in Older Adults. *International Journal of Gerontology*, 2016 10(1):37-42
13. Sutton-Traina K, Armour Smith J, Jarvis D, **Lee SP**, Kulig K. Exploring Active and Passive Contributors to Turnout in Dancers and Non-dancers. *Journal of Medical Problems in Performing Artists* 2015 Jun; 30(2):78-83.
14. Hickman R, Dufek JS, **Lee SP**, Blahovec A, Kuiken A, Riggins H, McClellan J. Feasibility of Using a Large Amplitude Movement Therapy to Improve Ambulatory Function in Children with Cerebral Palsy. *Physiotherapy Theory and Practice*, 2015 31(6):382-389.
15. Kulig K, **Lee SP (corresponding author)**, Reischl S, Noceti-Dewit L. Effect of Tibialis Posterior Tendon Dysfunction on Unipedal Standing Balance Task. *Foot and Ankle International*. 2015 Jan; 36(1):83-89.
16. **Lee SP**, Chow JW, Tillman MD. Persons with Reconstructed ACL Exhibit Altered Knee Mechanics during High-Speed Maneuvers. *International journal of Sports Medicine*. 2014 Jun; 35(6):528-33.
17. **Lee SP** & Powers CM. Individuals with Diminished Hip Abductor Muscle Strength Exhibit Altered Ankle Biomechanics & Neuromuscular Activation during Unipedal Balance Tasks. *Gait & Posture*; 2014; 39(3): 933-938.
18. **Lee SP** & Powers CM. Fatigue of the Hip Abductor Results in Increased Medial-Lateral Center of Pressure Excursion & Neuromuscular Adaptation of Peroneus Longus during a Unipedal Landing Task. *Clinical Biomechanics*; 2013; 28:524-529.
19. **Lee SP** & Powers CM. Description of a Weight Bearing Method to Assess Hip Abductor & External Rotator Muscle Performance. *Journal of Orthopaedic and Sports Physical Therapy*; 2013; 43(6): 392-397.

20. **Lee SP**, Souza RB, Powers CM. The Influence of Hip Abductor Muscle Performance on Dynamic Postural Stability in Females with Patellofemoral Pain. *Gait & Posture*; 2012;36(3): 425-429.

Complete List of Published Work in NCIB My Bibliography:

<https://www.ncbi.nlm.nih.gov/sites/myncbi/szu-ping.lee.1/bibliography/52858488/public/?sort=date&direction=ascending>

Google Scholar Page:

<https://scholar.google.com/citations?hl=en&user=dhySprsAAAAJ>

- **Refereed Articles in Review**

1. **Lee SP**, Andrew L, Davis T, Johnson C. The Impact of Visual Impairments on Mobility Performance in Community-Dwelling Older Adults: A Cross-Sectional Study. Submitted *Journal of Aging and Physical Activity* (submitted, February 2018)

- **Refereed Articles in Preparation**

1. MacDonald GA, **Lee SP**, Navalta J. Handgrip Fatigue and Forearm Girth in Intermediate Sport Rock Climbers.
2. **Lee SP**, Dinglasan V, Duong A, Totten R, Armour Smith, J. Individuals with Recurrent Low Back Pain Exhibit Significant Changes of Paraspinal Muscle Performance after Lumbar Multifidus Intramuscular Fine Wire Electrode Insertion. Projected submission to *Journal of Orthopedic and Sports Physical Therapy* (Spring 2018).
3. **Lee SP**, Shih HT, Gray C, Poggemiller M, Tracy I, Teng HL. Can Simple Postural Instructions Modify Running Forms in Recreational Runners? Projected submission to *Journal of Orthopaedic and Sports Physical Therapy* (Spring 2018).

### **Peer Reviewed Scientific and Professional Presentations**

1. Lee SC, Lee HH, Muthukumar V, **Lee SP**, Salado L, Estrada J, Danna-dos-Santos A. Estimation of Body Balance in Individuals with Traumatic Brain Injury using Force Plate and Mobile Health Instruments. Proceedings of IEEE International Conference on Biomedical and Health Informatics, Las Vegas, USA, 2018.
2. **Lee SP**, Dinglasan V, Duong A, Totten R, Armour-Smith J. Individuals with Recurrent Low Back Pain Exhibit Reduced Paraspinal Muscle Strength after Intramuscular Fine-wire EMG Electrode Insertion to Lumbar Multifidus. (platform presentation) Proceedings of the America Physical Therapy Association Combined Sections Meeting, New Orleans, USA, 2018.
3. **Lee SP**, Chin TM, Fox HJ, Gutierrez J. Access to Physical Therapy and Socioeconomic Status on Fear of Falling and Mobility Outcomes in Individuals with Lower Limb Loss. Proceedings of the America Physical Therapy Association Combined Sections Meeting, New Orleans, USA, 2018.
4. DiMascio J, Hicks R, Kimber M, Snyder K, Armour-Smith J, **Lee SP**. Insertion and Presence of Intramuscular Fine Wire Electrodes in the Lumbar Paraspinal Muscles Do Not Affect Muscle Performance and Activation during High Exertion Spinal Extension Exercises. Proceedings of the America Physical Therapy Association Combined Sections Meeting, San Antonio, Texas, USA, 2017.
5. Gray C, Poggemiller M, Tracy I, Teng HL, **Lee SP**. Can Simple Postural Instructions Modify Running Forms in Recreational Runners? Proceedings of the America Physical Therapy Association Combined Sections Meeting, San Antonio, Texas, USA, 2017.
6. Andrew L, Johnson C, Tortomasi T, **Lee SP**. The Impact of Visual Impairments on Mobility Performance in Community Dwelling Older Adults. Proceedings of the America Physical Therapy

Association Combined Sections Meeting, San Antonio, Texas, USA, 2017.

7. Turner C, **Lee SP**, Crow S, Keating B, Saupan T, Pyfer J, Vialpando K. The Effects of Instruction on Landing Strategies in College-Aged Dancers and Non-Dancers. Proceedings of the America Physical Therapy Association Combined Sections Meeting, Anaheim, California, USA, 2016 (platform presentation).
8. Standerfer A, Ngo S, Daun K, **Lee SP**, Ho KY. Locomotion-induced shock loading and tibiofemoral joint bone stress injury. Proceedings of the America Physical Therapy Association Combined Sections Meeting, Anaheim, California, USA, 2016 (platform presentation).
9. Epstein R, Garcia R, Riley N, **Lee SP**, Turner C, Ho KY. The effects of patellofemoral taping on patellofemoral joint alignment and contact area. Proceedings of the America Physical Therapy Association Combined Sections Meeting, Anaheim, California, USA, 2016 (platform presentation).
10. Sestini L, Wilde R, Jeng CC, **Lee SP**, Schuerman S. Physical Mobility in Older Adults: Influences of Body Composition, Polypharmacy, and Comorbidity. Proceedings of the America Physical Therapy Association Combined Sections Meeting, Anaheim, California, USA, 2016.
11. **Lee SP**, Barton S, Brown D, Joyce T, Bailey J. Four Weeks of Minimalist Style Running Training Led to Reduced Lumbar Paraspinal Muscle Activation during Shod Running. Proceedings of the America Physical Therapy Association Combined Sections Meeting, Anaheim, California, USA, 2016.
12. **Lee SP**, Bair B, Gama M, Toberman M, Hsu YT. Prevalence and Risk Factors for Neck and Shoulder Musculoskeletal Complaints in Users of Tablet Computers. Proceedings of the America Physical Therapy Association Combined Sections Meeting, Anaheim, California, USA, 2016.
13. **Lee SP**, Neumann, E. Optimizing Functions for Individuals with Lower Extremity Amputation: Clinicians' Perspective on Prosthetic Care and Education. Proceedings of the International Society of Prosthetics and Orthotics (invited presentation), Lyon, France, 2015.
14. **Lee SP**, Hickman R, Dufek J, Schuerman S. Influence of Procedural Factors on the Performance of Timed Up and Go Test in Community-Dwelling Older Adults. Proceedings of the America Physical Therapy Association Combined Sections Meeting, Indianapolis, Indiana, 2015.
15. Harry J, Hickman R, **Lee SP**, Morris B, Dufek JS. Effects of dual-tasking on spatio-temporal gait parameters in children with cerebral palsy. Proceedings of the 33<sup>rd</sup> Annual Meeting of the American College of Sports Medicine Southwest Chapter. Costa Mesa, California, 2014.
16. **Lee SP**, Noceti-Dewit L, Reischl S, Kulig K. Individuals with Posterior Tibial Tendon Dysfunction Exhibit Diminished Ability in Maintaining Postural Stability during a Unipedal Balance Task Proceedings of the America Physical Therapy Association Combined Sections Meeting, Las Vegas, Nevada, USA, 2014 (platform presentation).
17. **Lee SP**, Contreras D, Denton D, Young J. Application of a Criterion-Based Timed Up-and-Go Test: a Reliability and Validity Study Proceedings of the 2013 Annual Meeting of The Gerontological Society of America, New Orleans, Louisiana, USA, 2013.
18. **Lee SP** & Powers CM. Individuals with Diminished Hip Abductor Muscle Strength Exhibit Higher Moments & Neuromuscular Activation at the Ankle during Unipedal Balance Tasks. Proceedings of the 2012 Annual Meeting of American Society of Biomechanics, Gainesville, Florida, USA, 2012.
19. Dorman JC, **Lee SP**, Munce TA, Thompson PA. Does a Dehydrating Bout of Intermittent Exercise Affect Peak Loading Rate during Landing in Adolescent Boys? Proceedings of the American College of Sports Medicine Annual Meeting, San Francisco, California, USA, 2012.
20. **Lee SP** & Powers CM. Construct Validity and Reliability of a Novel Method to Assess Hip Abductor Muscle Performance. Proceedings of the American Physical Therapy Association Combined Sections Meeting, Chicago, Illinois, USA, 2012.
21. **Lee SP** & Powers CM. Association between Functional Hip Abductor Strength and Hip Joint Kinematics and Kinetics During a Dynamic Uni-pedal Drop Landing Task. Proceedings of the 2011 Annual Meeting of American Society of Biomechanics, Long Beach, California, USA, 2011.

22. **Lee SP** & Powers CM. Prediction of Frontal Plane Hip & Ankle Kinematics during Uni-pedal Stance Using a Dual-Segment, Center of Pressure-Based Postural Model. Proceedings of the 2011 Annual Meeting of American Society of Biomechanics, Long Beach, California, USA, 2011.
23. Sutton KR, Armour Smith, J, Jarvis DN, Oki KC, **Lee SP**, Kulig K. The Relationship between Long Bone Morphology, Dance History and Turnout: an Exploratory Study. Proceedings of the Annual Meeting of International Association for Dance Medicine and Science, Washington, DC, October 2011.
24. Dorman JC, **Lee SP**, Calsbeek DJ, Esposito LM, Munce TA, Thompson PA, Powers CM and Bergeron MF F. Postural Stability in Adolescent Boys During Repeated Bouts of Intermittent Exercise in the Heat. Proceedings of 2011 Annual Meeting of American College of Sports Medicine, Denver, Colorado, USA 2011.
25. Leung K, **Lee SP**, Popovich JM Jr., Reischl SF, Kulig K. A Comprehensive Foot, Ankle, and Hip Intervention for Patients with Posterior Tibial Tendon Dysfunction: A Case Series. Proceedings of the America Physical Therapy Association Combined Sections Meeting, New Orleans, Louisiana, USA, 2011.
26. Powers CM, Pollard CD, **Lee SP**, Cesar G., Sigward SM. The Influence of Sex and Maturation on Knee Valgus Moments during Cutting: Implications for ACL Injury. Proceedings of the 2010 Annual Meeting of American Society of Biomechanics, Providence, Rhode Island, USA, 2010.
27. Sigward SM, Pollard C, Cheng WC, **Lee SP**, Powers CM. The Influence of Gender & Maturation on Landing Strategies: Implications for ACL Injury. Proceedings of the 2009 Annual Meeting of American Society of Biomechanics, State College, Pennsylvania, USA, 2009.
28. **Lee SP** & Powers CM. Does Diminished Hip Muscle Strength Influence Medial-lateral Dynamic Stability in Females with Patellofemoral Pain? Proceedings of the 2009 American Physical Therapy Association Combined Sections Meeting, Las Vegas, Nevada, USA, 2009 (platform presentation).
29. **Lee SP**, Chow JW, Tillman MD. The Effect of Leg Dominance on Knee Joint Kinetics during Cutting. Proceedings of the 2008 North America Congress on Biomechanics, Ann Arbor, Michigan, USA, 2008.
30. **Lee SP**, Chow JW, Tillman MD, Bonhomme CA. Knee Kinetics during Cutting Maneuvers and ACL Laxity in Individuals with Unilateral ACL-reconstructed Knee. (Abstract) Medicine and Science in Sports & Exercise, 39(5), 2007.
31. **Lee SP**, Chow JW, Tillman MD, Bonhomme CA. The Effects of Different Cutting Conditions, Leg Dominance and Measured Anterior Cruciate Ligament Laxity on Knee Joint Kinetics. Proceedings of the 21st Congress of the International Society of Biomechanics, Taipei, Taiwan, 2007.
32. Chow JW, **Lee SP**, Tillman MD. Transverse Plane Moments and Ranges of Motion of the Lower Extremity during Walking and Turning in Unilateral Total Knee Replacement Individuals. Proceedings of the 21st Congress of the International Society of Biomechanics, Taipei, Taiwan, 2007.

### Invited Presentations

- Evidence-based Physical Therapy – Why Is It Important to You? Department of Physical Therapy and Assistive Technology, National Yang-Ming University (Dec 21, 2017)
- The Art and Science of Physical Therapy – An Ongoing Evolution. Department of Physical Therapy and Assistive Technology, National Yang-Ming University (Dec 20, 2017)
- Evidence-based Physical Therapy – Why Is It Important to You? School and Graduate Institute of Physical Therapy, National Taiwan University (Dec 20, 2017)
- Guest lecturer, United States Bone and Joint Initiative, NFP (USBJI). Topic: “Osteoarthritis and Osteoporosis” (04/17/2013)

- Guest lecturer, City of Las Vegas, Department of Leisure Services, Centennial Hills Active Adult Center. Topic: “Functional Mobility in Older Adults” (09/11/2013)
- Lecturer, Nevada Physical Therapy Association Southern District Meeting. Lecture title: “Influence of Trunk Posture on Running Injuries: an Update of Current Evidence” (4/18/2017)

### Intellectual Property

- **Lee, SP.**, Dufek, J.S. and Hickman, R.A. Method and Apparatus for Performing Timed Up-And-Go Test. Application Number: 61904693; Filed November 15, 2013.
- **Lee, SP.**, Dufek, J.S., Hickman, R.A., Morris, B. Clinical Mobility Assessment Application (Invention Disclosure); Submitted, Jul 2017.

### Funded/In Review Grant Activity

- Lee H, Muthukumar V, **Lee SP** (collaborator), Mohapatra S. Detecting Persistent Impairments Following Traumatic Brain Injury: Oculomotor and Balance Functions UNLV Faculty Opportunity Award – Collaborative Interdisciplinary Research Award, UNLV Provost’s Office, \$20,000 (Submitted March 2018).
- Ho KY, Lee D, **Lee SP** (Co-I). Knee Pain, Tendon Degeneration, and Limb-Socket Dynamics in Trans-Tibial Amputees. UNLV Faculty Opportunity Award – Collaborative Interdisciplinary Research Award, UNLV Provost’s Office, \$19,999 (funded May 2018).
- Ho, **Lee SP** (Co-PI), Dufek Knee Pain and Patellar Tendon Degeneration in Trans-Tibial Amputees. Department of Defense Orthotics and Prosthetics Outcomes Research Award, Department of the Army, \$495,332 (pre-application submitted and invited, Oct 2017; full application submitted Jan 2018).
- Mohamed (PI), **Lee SP** (a member of faculty mentor team). Integrating Engineering, Biomechanics, and Medicine for Stimulating the Participation of Underrepresented Groups in Research-Intensive Healthcare Careers. Research Experience for Undergraduates (REU). National Science Foundation (submitted Summer, 2017; resubmission Summer, 2018).
- **Lee SP**. Motor Learning in Individuals With and At Risk of Lower Limb Loss: Implications for Amputee Rehabilitation. K01 Career Development Award, National Center for Medical Rehabilitation Research, Eunice Kennedy Shriver National Institute of Child Health and Human Development, National Institute of Health, \$654,536, (re-submission Jul, 2017; impact score 28, pending funding decision).
- **Lee SP**, Amaya G, Gante R, Meinzer Z, Sadrossadat A. Mobility Outcomes and Patient Perception of Outpatient Physical Therapy in Individuals with Lower Extremity Amputation: a Retrospective Study. UNLV Department of Physical Therapy Student Research Opportunity Grant, \$1,820, 2017-2019.
- **Lee SP**, Ciccotelli J, Damele M, Gooder J, Gross R, Robina R. Lumbopelvic Muscle Performance and Cross-sectional Area in Individuals with Unilateral Transfemoral Amputation: Implications for Lower Back Pain. UNLV Department of Physical Therapy Student Research Opportunity Grant, \$1,370, 2017-2019.
- Ho KY, **Lee SP**, Evers M, Kellogg J, McQueary K. Patellar Tendon Morphology in Transtibial Amputees Utilizing a Patellar-Tendon-Bearing Prosthesis. UNLV Department of Physical Therapy Student Research Opportunity Grant, \$580, 2017-2019.
- **Lee SP**, Chin T, Fox H, Gutierrez J. Mobility Functions in Individuals with Lower Limb Loss. UNLV Department of Physical Therapy Student Research Opportunity Grant, \$1,505, 2016-2018.
- **Lee SP**, Puentedura E, Dinglasan V, Duong A, Totten R. Influence of Intramuscular Electromyographic Electrode Insertion on Lower Back Muscle Performance and Activation in Individuals with Chronic Low Back Pain. UNLV Department of Physical Therapy Student Research Opportunity Grant, \$1,631.5, 2016-2018.

- Ho KH, **Lee SP** (Co-I), McClaren J, Sudweeks S. Acute Effects of Walking on the Deformation of Femoral Articular Cartilage of the Knee, UNLV Department of Physical Therapy Student Research Opportunity Grant, \$2,125, 2015-2017.
- **Lee SP**, Schuerman S, Andrew L, Johnson C, Tortomasi T. The Impact of Visual Impairments on Mobility in Older Adults. UNLV Department of Physical Therapy Student Research Opportunity Grant, \$935, 2015-2017.
- **Lee SP**, Wulf G, Teng HL, Gray C, Poggemiller M, Tracy I. Effects of internal vs. external attentional focus instructions on running form re-education. UNLV Department of Physical Therapy Student Research Opportunity Grant, \$2,600, 2015-2017.
- **Lee SP**, Puentedura E, Dimascio J, Hicks R, Kimber M, Snyder K. Effects of Intramuscular EMG Insertion to Deep Paraspinal Muscles on Lumbar Muscular Strength and Endurance Performance. UNLV Department of Physical Therapy Student Research Opportunity Grant, \$1,452, 2015-2017.
- Hickman R, **Lee SP** (Co-I), Morris B, Dufek K, Popescu, Manzanares R. Use of Active Video Gaming in Children with Neurologically-based Movement Dysfunction. UNLV Department of Physical Therapy Student Research Opportunity Grant, \$1,100, 2015-2017.
- **Lee SP**, Dufek JS, Neumann ES. Prosthetic Assessments of Gait and Mobility in Individuals with Lower Limb Loss. Mountain West Clinical and Translational Research Infrastructure Network (CTR-IN), \$13,505, 2016.
- **Lee SP**, Wulf G, Teng HL, Billington E, Devries S, Scoggin K. Effects of internal vs. external attentional focus instructions on running form re-education. UNLV Department of Physical Therapy Student Research Opportunity Grant, \$2,000, 2014-2016.
- **Lee SP**, Gillis C, Ibarra J, Oldroyd D, Zane R. The effects of a raised heel posture on lower extremity biomechanics & muscle activation during a barbell back squat. UNLV Department of Physical Therapy Student Research Opportunity Grant, \$4,006, 2014-2016.
- **Lee SP**, Jeng CC, Sestini L, Wilde R, Establishing a functional mobility performance database for older adults in Southern Nevada. UNLV Department of Physical Therapy Student Research Opportunity Grant, \$2,403, 2014-2016.
- Ho KY, **Lee SP** (Co-I), Turner CL, Madsen SJ, The effects of patellofemoral taping on patellofemoral joint alignment and contact area. Faculty Opportunity Award, University of Nevada, Las Vegas, \$20,098, 2014-2016.
- Ho KY, **Lee SP** (Co-I), Ma B, Schuerman S., Daun K., Ngo S., Standerfer A. The effects of locomotion-induced shock loading on tibiofemoral bone stress injury, UNLV Department of Physical Therapy Student Research Opportunity Grant, \$4,200, 2014-2016.
- Dufek J, Hickman R, **Lee SP**, Morris B. Large Amplitude Movements (LAMs) for Children with Cerebral Palsy: Dose Response and Clinical Effectiveness. Doctoral Graduate Research Assistantship, University of Nevada, Las Vegas, \$25,000, 2014-2016.
- **Lee SP**, Dufek J, Mercer J. Influence of Foot Strike Pattern on Lower Back Muscle Activation during Running: Clinical Implications for Preventing Lower Back Pain in Runners. Faculty Opportunity Award, University of Nevada, Las Vegas, \$24,268, 2013-2015.
- **Lee SP**, Joyce T, Brown D, Barton S. Influence of Foot Strike Pattern on Lower Back Muscle Activation during Running: Clinical Implications for Preventing Lower Back Pain in Runners. UNLV Department of Physical Therapy Student Research Opportunity Grant, \$3,210, 2013-2015.
- **Lee SP**, Hsu Y, Bair B, Gama M, Matteucci M. Musculoskeletal Symptoms of Neck and Shoulder in Users of Touch-screen Devices: A Survey Study. UNLV Department of Physical Therapy Student Research Opportunity Grant, \$2,500, 2013-2015.
- Turner C., **Lee SP** (Co-PI), Keating B., Pyfer J., Vialpando K. The Effects of Training on Landing Strategies in Female College-Aged Dancers: A Pilot Study, UNLV Department of Physical Therapy Student Research Opportunity Grant, \$1,124, 2013-2015



- **Lee SP**, Contreras D, Denton D. Examination of Test Condition Variables on the Test-Retest Reliability of the Timed Up-and -Go Test in Geriatric Population. Undergraduate Research Opportunity Program, Nevada NIH IDeA Network of Biomedical Research Excellence (Nevada INBRE), \$11,000, 2013.
- Hickman, R., Dufek, J.S. and **Lee SP** (Co-I). UNLV Kids Research Outreach to Community Clinicians (UNLV KidsROCC). School of Allied Health Sciences, University of Nevada, Las Vegas, \$2,554, 2012-2013.
- **Lee SP**. The Influence of Hip Muscle Performance on Postural Stability & Ankle Biomechanics: Implications for Ankle Injury. Dissertation Award, International Society of Biomechanics, \$5,000, 2011-2012.

### Previous Grant Submissions

- Ho KY, **Lee SP** (Co-I) Influence of Patellofemoral Joint Loading on Patella Water Content in Female NCAA Basketball Players. Bone Stress Injury Call for Proposal, NBA & GE Healthcare Orthopedics and Sports Medicine Collaboration, \$298,609, (unfunded), 2017.
- **Lee SP** (PI) Mobility Outcomes and Patient Perception of the Benefits of Physical Therapy in Individuals with Limb Loss: a Retrospective Study. HealthSouth Corporation Research Grant, \$5,995, (unfunded), 2017.
- **Lee SP**, Silvernail J, Aguila E, Dufek J, Neumann E, Shan, G. Clinical Utility of Augmented Feedback Technologies for Improving Gait Symmetry and Mobility in Individuals with Unilateral Lower Limb Loss. Department of Defense Orthotics and Prosthetics Outcomes Research Award, Department of the Army, \$298,096 (unfunded), 2016.
- **Lee SP**. Motor Learning in Individuals With and At Risk of Lower Limb Loss: Implications for Amputee Rehabilitation. K01 Career Development Award, National Center for Medical Rehabilitation Research, Eunice Kennedy Shriver National Institute of Child Health and Human Development, National Institute of Health, \$627,002 (unfunded, 2016; re-submitted Jul, 2017).
- Dufek JS, Neumann ES, **Lee SP**, Silvernail JA. Use of Direct Prosthetic Measurement to Improve and Enhance Physical Function. Orthotics and Prosthetics Outcomes Research Award, Department of Defense, \$499,778 (unfunded), 2015.
- Ho KY, **Lee SP**. Locomotion-Induced Shock Loading and Tibiofemoral Joint Bone Stress Injury. Arthritis Foundation, \$573,350 (unfunded), 2015
- Dufek, JS, Neumann ES, **Lee SP**, Silvernail JA. Optimizing Functional Outcomes for Individuals with Amputation: Direct Prosthetic Measurement in Comparison to Inverse Dynamics Analyses of Limb Loading. Orthotics and Prosthetics Outcomes Research Award, Department of Defense, \$499,778 (unfunded), 2014.
- Wulf G, Lee SP. Effectiveness of Attentional Focus Instruction on Running Form Re-education. Clinical and Translational Research Infrastructure Network Pilot Grant Program, \$9,660 (unfunded), 2014
- Ho KY, **Lee SP**, Ma B, Schuerman S. Effects of Locomotion-Induced Shock Loading on Tibiofemoral Bone Stress Injury. Clinical and Translational Research Infrastructure Network Pilot Grant Program, NIH Mountain West IDeA , \$81,630 (unfunded), 2014

### Current/Active Research Activity

- **Prosthetic Assessments of Gait and Mobility in Individuals with Lower Limb Loss.**  
Principal Investigator
- **Lower Back Pain in Individuals with Lower Limb Loss**  
Principal Investigator
- **Lower Back Pain in Golfers**  
Co-Investigator

- **Use of Intramuscular Electromyography to Detect Deep Lumbar Paraspinal Muscle Activities.**  
Principal Investigator
- **Effects of Attentional Focus on Learning of Locomotor Skills.**  
Principal Investigator
- **Establishing an Older Adult Functional Mobility Performance Database and Data Sharing Technology**  
Principal Investigator
- **Effects of Locomotion-Induced Shock Loading on Bone Stress Injury of the Knee**  
Co-Investigator
- **The Effects of Training and Instruction on Landing Strategies in Female College-Aged Dancers**  
Co-Investigator

### **Membership in Scientific/Professional Organizations**

- American Physical Therapy Association (2008-present)
- American Society of Biomechanics (2006-present)
- Gerontological Society of America (2013-present)
- International Society of Biomechanics (2007-present)
- UNLV Center for Biobehavioral Interdisciplinary Science (2017-present)

### **Consultative and Advisory Positions**

- Ad-hoc journal article reviewer, *Journal of Orthopedic and Sports Physical Therapy* (2013-present)
- Ad-hoc journal article reviewer, *International Research Journal of Medicine and Medical Sciences* (2013-present)
- Ad-hoc journal article reviewer, *International Journal of Sports Medicine* (2014-present)
- Ad-hoc journal article reviewer, *Research in Sports Medicine* (2014-present)
- Ad-hoc journal article reviewer, *Journal of Applied Physiology* (2014-present)
- Ad-hoc journal article reviewer, *Foot & Ankle Research* (2014-present)
- Ad-hoc journal article reviewer, *Games for Health* (2014-present)
- Ad-hoc journal article reviewer, *Annals of Sports Medicine and Research* (2014-present)
- Ad-hoc journal article reviewer, *Physical Therapy in Sport* (2014-present)
- Ad-hoc journal article reviewer, *Clinical Biomechanics* (2015-present)
- Ad-hoc journal article reviewer, *Prosthetics & Orthotics International* (2015-present)
- Ad-hoc journal article senior reviewer, *Physical Therapy* (2015-present)
- Ad-hoc journal article reviewer, *Human Movement* (2015-present)
- Ad-hoc journal article reviewer, *Journal of Sport and Health Science* (2016-present)
- Ad-hoc journal article reviewer, *Sports Biomechanics* (2016-present)
- Ad-hoc journal article reviewer, *Journal of Applied Biomechanics* (2016-present)
- Ad-hoc journal article reviewer, *Physiotherapy Theory and Practice* (2016-present)
- Ad-hoc journal article reviewer, *Archives of Physical Medicine and Rehabilitation* (2017-present)

### **Services to the University/School/Department on Committees/Councils/Commissions**

- Department of Physical Therapy
  - Chair, Bylaws Committee (01/01- current)
  - Member, Faculty Search Committee (02/01/2017- current)
  - Member, Academic Review Committee (08/01/2013- 01/01/2018)
  - Member, Bylaws Committee (08/01/2013- 2016)
  - Member, PhD program Committee (08/01/2013- current)

- Chair, Research Committee (01/01/2013- current)
- Member, Admissions Committee (01/01/2013- 05/31/2013)
- Member, Website Committee (01/01/2013- 05/31/2013)
- Member, Faculty Search Committee (01/01/2013- 07/31/2013)
- School of Allied Health Sciences
  - Member, Undergraduate/Graduate Curriculum Committee (09/01/2015-current)
  - Member, Academic Standards Committee (09/01/2013-09/01/2015)
  - Member, Research Boot Camp organizing committee (03/01/2013)
- University of Nevada, Las Vegas
  - Strategic diversity point of contact (School of Allied Health Sciences), President's Diversity Initiative (03/06/2015-current)
  - Faculty senator (August 2017-current)

### **Continuing Education Attended (last 5 years)**

- Conferences
  - American Physical Therapy Association Combined Sections Meeting
    - San Diego, California, 2013
    - Las Vegas, Nevada, 2014
    - Indianapolis, Indiana, 2015
    - Anaheim, California, 2016
    - San Antonio, Texas, 2017
    - New Orleans, Louisiana, 2018
  - American Society of Biomechanics Annual Meeting
    - Gainesville, Florida, 2012
    - Omaha, Nebraska, 2013
    - Boston, Massachusetts, 2014 (World Congress of Biomechanics)
    - Boulder, Colorado, 2017
  - Gerontological Society of America Annual Scientific Meeting
    - New Orleans, Louisiana, 2013
  - International Society of Prosthetics and Orthotics World Congress
    - Lyon, France, 2015
  - American Orthotic Prosthetic Association's National Assembly
    - Las Vegas, Nevada, 2014
  - International Consumer Electronics Show
    - Las Vegas, Nevada, 2015
    - Las Vegas, Nevada, 2016
- Workshop
  - Training in Grantsmanship for Rehabilitation Research (TIGRR)
    - Charleston, South Carolina, January 13-17, 2015
  - UNLV Faculty Institute – Creative Research Assignments: Looking Beyond the Research Paper
    - UNLV Lied Library, January 8-9, 2018

### **Current Teaching Responsibilities in the UNLV Doctor of Physical Therapy program**

- Fall:
  - DPT 749 (2 credits) Applied Exercise Physiology
  - DPT 749L (1 credit) ) Applied Exercise Physiology Laboratory
  - DPT 791 (3 credits) Applied Research Statistics
- Spring:

- DPT 750 (2 credits) Prosthetics and Orthotics
- DPT 750L (1 credit) Prosthetics and Orthotics Laboratory
- DPT 790 (3 credits) Clinical Research in Physical Therapy
- Summer:
  - DPT 752 (2 credits) Physical Agents and Electrophysiology
  - DPT 752L (1 credit) Physical Agents and Electrophysiology Laboratory

#### **Current Teaching Responsibilities in the UNLV Interdisciplinary Health Science PhD program**

- DPT 715 (3 credits) Pathobiomechanics (guest lecturer)
- DPT 712 (3 credits) Physiological Bases of Rehabilitation
- HSC 710 (1 credit) Interdisciplinary Health Science Seminar (guest lecturer)

#### **Graduate & Undergraduate Students Supervised**

- **PhD Students, Committee Chair**
  - Jay Ciccotelli (current) Interdisciplinary Health Science – Rehabilitation Science
  - Hui-Ting Shih (current) Interdisciplinary Health Science – Rehabilitation Science
- **PhD Students, Committee Member**
  - Takehiro Iwatsuki (current) Kinesiology – Motor Learning
  - Justin Brink (current) Engineering – Mechanical Engineering
  - Jeff Montes (current) Kinesiology – Exercise Physiology
- **Doctor of Physical Therapy Students, Professional Career and Academic Advisor**
  - Class of 2014: Molly Newman, Beren Shah, Jordan Sinclair, Elizabeth Willison
  - Class of 2015: Kevin Carr, Shaylyn Kennedy, Erin Oelklaus
  - Class of 2016: Abbey Dow, Ethan Konshuk, Kenshin Scoggin, Erwin Ventura
  - Class of 2017: James Dimascio, Aliitasi Kelemete, Matthew Poggemiller, Ian Tracy
  - Class of 2018 (current): Brooke Conway, Heather Fox, Arnold Huang, Alejandro Preciado
  - Class of 2019 (current): Melissa Damele, Kylie Henry, Zachary Meinzer, Zachary Shaver
- **Doctor of Physical Therapy Students, Research Mentor**
  - Class of 2014: Erin Harrison Jarrett, Beren Shah, Alanna Stockford (co-mentor).
  - Class of 2015: Betina Bair, Mariana Gama, Marissa Matteucci;  
Stephanie Barton, David Brown, Talia Joyce;  
Brittany Keating, Jason Pyfer, Kimberly Vialpando (co-mentor).
  - Class of 2016: Elizabeth Billington, Scott Devries, Kenshin Scoggin;  
Kevin Jeng, Linna Sestini, Rachel Wilde;  
Javier Ibarra, Derek Oldroyd, Ryan Zane;  
Kasha Farley, Paul Goodrich, Daniel Johnson (co-mentor);  
Sarah Crow, Tom Crowther, Trenton Saupan (co-mentor);  
Ryan Epstein, Ron Garcia, Nicole Riley (co-mentor);  
Karen Daun, Suzenna Ngo, Alexa Standerfer (co-mentor).
  - Class of 2017: James DiMascio, Rebeka Hicks, Kelsey Snyder, Matthew Kimber;  
Lauren Andrew, Christian Johnson, Talia Tortomasi;  
Casey Gray, Matthew Poggemiller, Ian Tracy;  
Robert Manzanares, Lisa Popsecu (co-mentor).
  - Class of 2018 (current): Anthony Duong, Vincent Dinglasan, Russell Totten;  
Heather Fox, Tyler Chin, Juan Gutierrez;  
Arnold Huang, Ali Ross, Kelsey Taelour, Geneva Winters (co-mentor).
  - Class of 2019 (current): Greg Amaya, Rosman Gante, Zachary Meinzer, Abbas Sadrossadat;  
Melissa Damele, Justin Gooder, Rachel Gross, Ron Robina;

Michelle Evers, Jessica Kellogg, Kelly McQueary (co-mentor).

- **Graduate Assistant Advisor**
  - 2013: Tyler Peck
  - 2013-2014: James Bokinskie
  - 2014-2015: Ron Garcia
  - 2015-2016: Christian Johnson
  - 2016-current: Hui-Ting Shih
- **Master's Degree Student, Committee Member**
  - Erik Hanson (2013) Kinesiology - Athletic Training
  - Josh Bailey (2014) Kinesiology – Biomechanics
  - Erik Oskarson (2014) Kinesiology – Exercise Physiology
  - Chase Lacombe (2015) Kinesiology – Exercise Physiology
  - Jeff Montes (2015) Kinesiology – Exercise Physiology
  - Austin Coupe (2015) Kinesiology – Biomechanics
  - Kyle Meffered (2015) Kinesiology – Biomechanics
  - Maijah Williams (current) Kinesiology - Athletic Training
  - Song Vo (2016) Kinesiology – Kinesiology - Biomechanics
  - Andrea Woita (current) Nutrition Science
  - Kyle Larimer (current) Kinesiology - Biomechanics
- **Undergraduate and Exchange Student Advisor**
  - 2013 Diana Contreras and Delani Denton; Examination of Test Condition Variables on the Test-Retest Reliability of the Timed Up-and -Go Test in Geriatric Population.
  - 2014 Gregory Wingert, Daniel Dinev, and Vladislav Zhitny; Business plan: Dynamend Corporation; 3rd place in the undergraduate level of the 2014 Donald W. Reynolds Governor's Cup Business Plan Competition.
  - 2015 Kyle Kastrup; Academic Exchange Program, College of Engineering, University of Cincinnati
  - 2015 Leonardo Coneglian; Brazil Scientific Mobility Program
  - 2016 Hikari Nagata; International Exchange Program, Department of Rehabilitation, Hiroshima International University
  - 2017 Akino Aoki; International Exchange Program, Department of Rehabilitation, Hiroshima International University