

**Erika Nelson-Wong, PT, DPT, Ph.D.**  
**Professor, School of Physical Therapy**  
**Regis University**  
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**Contact Information**

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**Education**

University of Waterloo, 200 University Ave W, Waterloo, ON, Canada, N2L3G1

*Ph.D./2009, Kinesiology/Spine Biomechanics*

Dissertation: “Biomechanical Predictors of Induced, non-Specific Low Back Pain, and Motor Control Responses to a Stabilization Exercise Based Clinical Intervention.”

Advisor: Jack P. Callaghan, Ph.D.

University of Waterloo - 200 University Ave W, Waterloo, ON N2L3G1

*Certificate in University Teaching/ 2008*

Research Project: “Implementation of Problem Based Learning in Undergraduate Kinesiology Education.”

Advisor: Svitlana Taraban, Ph.D.

Regis University, 3333 Regis Blvd, Denver, Colorado, 80221

*DPT/2004, Physical Therapy*

Regis University, 3333 Regis Blvd, Denver, Colorado, 80221

*MSc/1996, Physical Therapy*

Thesis: “Effects of Non-Insulin Dependent Diabetes Mellitus on Fibrinolysis in Premenopausal Women.”

Advisors: Judith Regensteiner, Ph.D./ Troy Stevens, Ph.D.

Colorado School of Mines, 1500 Illinois St., Golden, Colorado, 80401

*BSc/1992, Engineering Physics*

Senior Thesis: “Low-Level Gamma Ray Emission from Trees Exposed to Known Radioactive Events.”

Advisor: Ed Cecil, Ph.D.

**Licensure and Certification**

1. Colorado Licensed Physical Therapist, #5850, Colorado Department of Regulatory Agencies, 1997 – present, Active
2. Collaborative Institutional Training Initiative (CITI) – Certification for Human Research (Biomedical, Social Behavioral), 2009 – present

## **Employment History**

### **Academic Experience**

Professor, School of Physical Therapy, Regis University, 3333 Regis Blvd., Denver, CO, 80221 (Aug 2018 – present)

Teach in entry-level DPT program, mentor and advise students, engage in active scholarship agenda, service to University through committee work.

Visiting Professor on Sabbatical, Faculty of Applied Health Sciences, University of Waterloo, 200 University Ave W., Waterloo, ON, Canada, N2L3G1 (Jan 2016 – Apr 2016)

Conducted collaborative research in tissue mechanics, mentored graduate students in kinesiology/biomechanics, guest lectures.

Associate Professor, School of Physical Therapy, Regis University, 3333 Regis Blvd., Denver, CO, 80221 (Aug 2013 – present)

Teach in entry-level DPT program, mentor and advise students, engage in active scholarship agenda, service to University through committee work.

Assistant Professor, School of Physical Therapy, Regis University, 3333 Regis Blvd., Denver, CO, 80221 (Aug 2009 – Jul 2013)

Teach in entry-level DPT and undergraduate HES programs, mentor and advise students, engage in active scholarship agenda, service to University through committee work.

Affiliate Faculty, School of Physical Therapy, Regis University, 3333 Regis Blvd., Denver, CO, 80221 (Mar 2005 – May 2009)

Teach in distance-based, on-line post-professional transition DPT program, serve as academic advisor to post-professional students.

Graduate Research Assistant, Faculty of Applied Health Sciences, University of Waterloo, 200 University Ave W., Waterloo, ON, Canada, (Sep 2005 – Aug 2009)

Conduct research in spine biomechanics, supervise undergraduate and Master's level students in their research projects, conduct research for industry-based contracts, laboratory management.

Affiliate Faculty, School of Physical Therapy, Regis University, 3333 Regis Blvd., Denver, CO, 80221 (Jan 1996 – May 2000)

Teach in entry-level MSPT program in the areas of Physiology, Biomechanics, and Problem-Based Learning Tutorials.

Professional Research Assistant, University of Colorado Health Sciences, Denver, CO (1996 –1997)

Completed IRB proposals, recruited and enrolled participants for a study on fibrinolysis in premenopausal diabetic women. Collected, organized and analyzed experimental data, assisted with manuscript writing.

## **Clinical Experience**

### Physical Therapist, Rock Valley Physical Therapy, Moline, IL (Apr, 2005 – Aug, 2005)

Provided outpatient physical therapy services in a privately owned orthopaedic practice, 100% patient care.

### Director of Rehabilitation Services, Option Care, Moline, IL (Feb, 2003 – Mar, 2005)

Supervised rehabilitation services including physical, occupational and speech therapies for rural communities through an independently owned home health care company, 30% administration, 70% patient care.

### Physical Therapist, Option Care, Moline, IL (Apr 3, 2002 – Feb, 2003)

Provided home-based physical therapy services for rural communities through an independently owned home health care company, 100% patient care.

### Physical Therapist, Genesis Medical Center, Bettendorf, IA (Apr, 2002 – Nov, 2003)

PRN position to provide hospital based physical therapy services in outpatient and aquatic therapy settings, 100% patient care.

### Physical Therapist, Argosyhealth On Site Therapy, Joslin, IL (Dec, 2001 – Feb, 2002)

Provided physical therapy services in an industrial setting (meatpacking/slaughterhouse) with a focus on ergonomics and return to work for an independently owned agency that contracted with area employers, 100% patient care.

### Physical Therapist, Visiting Nurse's Association of Denver, Denver, CO (Nov, 1998 – Aug, 2001)

Provided home-based physical therapy services for metro and rural mountain communities through a not for profit home health agency, 100% patient care.

### Physical Therapist, Mountain View Physical Therapy, Evergreen, CO (Jan, 1997 – Dec, 1998)

Provided outpatient physical therapy services in a privately owned orthopaedic practice, 100% patient care.

## **Honors and Awards**

### **Received**

#### Rueckert-Hartman College for Health Professions Sustained Faculty Scholarship Award, May, 2017.

*The Sustained Scholarship Award is given to recognize a ranked faculty member for excellence in scholarship, research, and creative works for the purpose of encouraging mastery of subject and contributions to the scholarly literature in one's field.*

#### Regis University School of Physical Therapy Outstanding Student Research Award, April, 2016 (Ferber N, Ingerson E, Jacques E, Olsen B, Renfrow C, Sachs A, Nelson-Wong E – Faculty Supervisor).

*This award is given to a DPT student research group to recognize a high quality research project, that includes a thorough understanding of research question, creative solution to the question, and*

*appropriate design. Emphasis is placed on the students' ability to work independently as a group, and display quality writing skills in the proposal and manuscript phases of the project, culminating in quality presentation of their research results.*

Regis University School of Physical Therapy Outstanding Student Research Award, April, 2015 (Bartha D, Beltran M, Dominguez D, Lachtman D, Messerli A, Miller S, Davis AM – Faculty Supervisor, **Nelson-Wong E – Faculty Supervisor**)

*This award is given to a DPT student research group to recognize a high quality research project, that includes a thorough understanding of research question, creative solution to the question, and appropriate design. Emphasis is placed on the students' ability to work independently as a group, and display quality writing skills in the proposal and manuscript phases of the project, culminating in quality presentation of their research results.*

Regis University School of Physical Therapy Outstanding Student Research Award, April, 2014 (Brodie A, Burgemeister M, Conley M, Greiner E, Hargrove J, Kernan K, Davis AM – Faculty Supervisor, **Nelson-Wong E – Faculty Supervisor**)

*This award is given to a DPT student research group to recognize a high quality research project, that includes a thorough understanding of research question, creative solution to the question, and appropriate design. Emphasis is placed on the students' ability to work independently as a group, and display quality writing skills in the proposal and manuscript phases of the project, culminating in quality presentation of their research results.*

AMTI Force & Motion Foundation Award - Best Poster Using Force Platform Data, American Society of Biomechanics Annual Meeting, Aug, 2011 (Gallagher K, **Nelson-Wong E**, Callaghan JP)

*This award is given to recognize a high quality, innovative research project with expected high contribution to the field that uses multi-axis force measurements and testing. Recipients receive \$500 in recognition of their work.*

Section on Research, American Physical Therapy Association, Marilyn Gossman Graduate Student Research Seminar, Feb, 2011 (Appell RK, Nawaz H, McKay M, Roth J, Sigler RL, Third JN, Walker MO, **Nelson-Wong E – Faculty Supervisor**)

*The Marilyn Gossman Graduate Student Research Seminar, held at the APTA Combined Sessions Meeting each year, is a highly competitive forum to showcase the profession's developing researchers. Given Marilyn Gossman's commitment to developing the physical therapist researcher, this session is dedicated to serve as a unique forum for presentation and discussion of post professional research and interaction among graduate students, physical therapy researchers, and clinicians. Presenters received \$500 in recognition of their work.*

Section on Research, American Physical Therapy Association, Marilyn Gossman Graduate Student Research Seminar, Feb, 2010 (**Nelson-Wong E**, Callaghan JP)

*The Marilyn Gossman Graduate Student Research Seminar, held at the APTA Combined Sessions Meeting each year, is a highly competitive forum to showcase the profession's developing researchers. Given Marilyn Gossman's commitment to developing the physical therapist researcher, this session is dedicated to serve as a unique forum for presentation and discussion of post professional research and interaction among graduate students, physical therapy researchers, and clinicians. Presenters received \$250 in recognition of their work.*

Bone and Joint Initiative USA, Young Investigators Initiative Mentoring Program, 2010-2011

*Selection for this grant mentoring and career development program follows a competitive process and is open to promising junior faculty researchers who have been nominated by their department chairs. The purpose is to provide experienced and supportive mentoring in how to construct a well-founded research proposal and secure funding. Participants are selected on the strength of an existing research proposal, and invited to a series of weekend workshops to meet with mentors and for educational sessions.*

Foundation for Physical Therapy, Promotion of Doctoral Studies Award II, 2008-2009

*This \$15,000 scholarship is awarded to fund the most highly qualified post professional doctoral students within the applicant pool and to ensure that the physical therapy profession benefits from the commitment, scholarship, and teaching of these individuals. This award is for students in the post-candidacy phase of their post-professional doctoral studies.*

Section on Research, American Physical Therapy Association, Marilyn Gossman Graduate Student Research Seminar, Feb, 2008 (Nelson-Wong E, Gregory D, Winter DA, Callaghan JP)

*The Marilyn Gossman Graduate Student Research Seminar, held at the APTA Combined Sessions Meeting each year, is a highly competitive forum to showcase the profession's developing researchers. Given Marilyn Gossman's commitment to developing the physical therapist researcher, this session is dedicated to serve as a unique forum for presentation and discussion of post professional research and interaction among graduate students, physical therapy researchers, and clinicians.*

Foundation for Physical Therapy, Promotion of Doctoral Studies Award I, 2006-2007

*This \$7,500 scholarship is awarded to fund the most highly qualified post professional doctoral students within the applicant pool and to ensure that the physical therapy profession benefits from the commitment, scholarship, and teaching of these individuals. This award is for students in the coursework phase of their post-professional doctoral studies, prior to candidacy.*

Foundation for Physical Therapy, Mary McMillan Doctoral Award (Florence P. Kendall Scholarship), 2006

*This \$5,000 scholarship is to assist physical therapists and physical therapist assistants with outstanding potential in the first year of graduate studies towards a post-professional doctorate.*

University of Waterloo, International Doctoral Student Award, 2005-2006

*This scholarship is provided to outstanding students, not holding Canadian citizenship, and adjusts tuition costs to be comparable to those holding citizenship.*

Regis University Graduate Honors, 2004

*Graduate honors awarded for completion of DPT degree with a cumulative grade point average of greater than 3.850.*

Regis University Graduate Honors, 1996

*Graduate honors awarded for completion of MSPT degree with a cumulative grade point average of greater than 3.850.*

Colorado School of Mines, Bartunek Award for Excellence in Physics, 1992

*This scholarship was awarded to an undergraduate student demonstrating potential in the discipline of Physics.*

### **Nominations (Not Received)**

#### American Physical Therapy Association Eugene Michels New Investigator Award, 2017

*This award recognizes outstanding physical therapists who are within 10 years of completing their post professional doctoral degree. Nominees must be engaged in independent or collaborative research activities and have demonstrated a relationship between the research activities and the field of physical therapy. Contributions must be judged to have a present or future impact upon the profession.*

#### American Physical Therapy Association Eugene Michels New Investigator Award, 2016

*This award recognizes outstanding physical therapists who are within 10 years of completing their post professional doctoral degree. Nominees must be engaged in independent or collaborative research activities and have demonstrated a relationship between the research activities and the field of physical therapy. Contributions must be judged to have a present or future impact upon the profession.*

#### American Physical Therapy Association Margaret L. Moore Award for Outstanding New Academic Faculty Member, 2014

*This award is given to a core faculty member in a physical therapy school who has demonstrated distinct expertise in at least one subject area to which research and teaching efforts have been directed; past, current, and potential contributions to scholarly activities; teaching excellence in the academic setting; and commitment to service to the institution and to the profession.*

#### Canadian Society for Biomechanics Doctoral Award, 2009

*I was one of three finalists for this award which is given to the best research platform presentation by a doctoral student at the Canadian Society for Biomechanics Annual Meeting.*

### **Scholarly Activities: Publications**

#### **Refereed Publications - Journals**

1. Mannen E, Havens K, Kahney A, **Nelson-Wong E**. Baby wearing method impacts caregiver biomechanics during prolonged standing. *Appl Ergon*, Submitted in review, Oct 4, 2018.
2. \*Ingerson E, Renfrow C, Aragon E, Ferger N, Olson B, Sachs A, **Nelson-Wong E**. Individuals with low back pain improve in standing tolerance and sagittal plane muscle activation following exercise intervention. *J Back Musculoskel Rehabil*. 2019; doi:10.3233/BMR-171053.
3. \*\*\*Sepp L, Baum B, **Nelson-Wong E**, Silverman A. Dynamic balance during running using running-specific prostheses. *J Biomech*. 2019;84:36-45. PMID: 30638718.
4. \*Edgar K, Appel A, Clay N, Engelsgerd A, Hill L, Leeseberg E, Lyle A, **Nelson-Wong E**. Influence of sacroiliac bracing on muscle activation during two functional tasks in standing-tolerant and standing-intolerant individuals. *J Appl Biomech*. 2019;35(2):107-115. doi: 10.1123/jab.2018-0197.
5. **Nelson-Wong E**, Glinka M, Noguchi M, Langevin H, Callaghan JP. (2018) Acute fascia injury alters the tensile properties of thoracolumbar fascia in a porcine model. *J Biomech Eng*. 2018;140(10).

doi:10.1115/1.4040452.

6. \*\*\*Capobianco RA, Feeney DF, Jeffers JR, **Nelson-Wong E**, Morreale J, Grabowski AM, Enoka RM. Sacroiliac dysfunction patients exhibit altered movement strategies when performing a sit-to-stand task. *The Spine Journal*. 2018;18(8):1434-1440. doi: 10.1016/j.spinee.2018.03.008
7. \*\*Sheahan P, **Nelson-Wong E**, Fischer S. An update on the international status and usage of cross-culturally adapted versions of the Oswestry Disability Index. *Procedia Manufacturing*. 2015;3:3971-3973.
8. \*Lachtman DS, Bartha DA, Beltran MM, Dominguez DN, Messerli AR, Miller SE, Davis AM, **Nelson-Wong E**. Rater reliability and concurrent validity of single and dual bubble inclinometry to assess cervical lateral flexion. *J Manip Physiol Ther*. 2015;38(8):572-580.
9. Callaghan JP, De Carvalho DE, Gallagher KM, Karakolis T, **Nelson-Wong E**. Is standing the solution to sedentary office work? *Ergonomics in Design*. 2015;23(3):20-24.
10. \*\*Sheahan P, **Nelson-Wong E**, Fischer S. A review of culturally adapted versions of the Oswestry Disability Index: The adaptation process, construct validity, test-retest reliability and internal consistency. *Dis Rehabil*. 2015;37(25):2367-74. (PMID: 25738913)
11. **Nelson-Wong E**, Gallant P, Alexander S, Dehmer K, Ingvalson S, McClenahan B, Piatte A, Poupore K, Davis AM. Multiplanar lumbar control in patients with low back pain: is multiplanar assessment better than single plane assessment in discriminating between patients and healthy controls? *J Man Manip Ther*. 2014;24(1):45-50.
12. **Nelson-Wong E**, Callaghan JP. Transient low back pain development during standing predicts future clinical low back pain in previously asymptomatic individuals. *Spine*. 2014;39(6):1-5.
13. **Nelson-Wong E**, Poupore K, Alexander S, Dehmer K, Gallant P, Ingvalson S, McClenahan B, Piatte A, Davis AM. Neuromuscular strategies for lumbopelvic control during frontal and sagittal plane movement challenges differ between people with and without low back pain. *J Electromyogr Kinesiol*. 2013;23(6):1317-1324.
14. **Nelson-Wong E**, Eigsti H, Hammerich A, Ellison N. Influence of presentation handout completeness on student learning in a physical therapy curriculum. *J Schol Teach Learn*. 2013;13(3):33-47.
15. **Nelson-Wong E**, Alex B, Csepe D, Lancaster D, Callaghan JP. Altered muscle recruitment during extension from trunk flexion in low back pain developers. *Clin Biomech*. 2012;27(10):994-998.
16. **Nelson-Wong E**, Appell R, McKay M, Nawaz H, Roth J, Sigler R, Third J, Walker M. Increased fall risk is associated with elevated co-contraction about the ankle during static balance challenges in older adults. *Eur J Appl Physiol*. 2012;112(4):1379-1389.
17. Davis AM, Bridge P, Miller J, **Nelson-Wong E**. Inter- and intra-rater reliability of the Active Hip Abduction Test. *J Orthop Sports Phys Ther*. 2011;41(12): 953-960.

18. \*\*\*Gallagher K, **Nelson-Wong E**, Callaghan JP. (2011) Do asymptomatic low back pain developers demonstrate different postural control strategies than non-pain developers during unconstrained prolonged standing? *Gait Posture*. 2011;34(4):490-495.
19. Pauk J, Ezerskiy V, **Nelson-Wong E**, Rogalski M. Assessment of foot morphology in flat feet children. *Methods of Applied Sciences*. 2010;6:131-140.
20. **Nelson-Wong E**, Howarth SJ, Callaghan JP. Acute biomechanical responses to a prolonged standing exposure in a simulated occupational setting. *Ergonomics*. 2010;53(9):1117-28.
21. **Nelson-Wong E**, Callaghan JP. Repeatability of clinical, biomechanical, and motor control profiles in people with and without standing-induced low back pain. *Rehab Res Pract*. 2010; Vol. 2010, Article ID 289278, 9 pages.
22. **Nelson-Wong E**, Callaghan JP. Changes in muscle activation patterns and subjective low back pain ratings during prolonged standing in response to an exercise intervention. *J Electromyogr Kinesiol*. 2010;20(6):1125-33.
23. **Nelson-Wong E**, Callaghan JP. The impact of a sloped surface on low back pain during prolonged standing. *Appl Ergon*. 2010;41(6):787-95.
24. **Nelson-Wong E**, Callaghan JP. Is muscle co-activation a predisposing factor for low back pain development during standing? A multifactorial approach for early identification of at-risk individuals. *J Electromyogr Kinesiol*. 2010;20(2):256-263.
25. **Nelson-Wong E**, Howarth SJ, Winter DA, Callaghan JP. Application of autocorrelation and cross-correlation analyses in human movement and rehabilitation research. *J Orthop Sports Phys Ther*. 2009;39(4):287-295.
26. **Nelson-Wong E**, Flynn TW, Callaghan JP. Development of Active Hip Abduction as a screening test for identifying occupational low back pain. *J Orthop Sports Phys Ther*. 2009;39(9):649-657.
27. **Nelson-Wong E**, Gregory DE, Winter DA, Callaghan JP. Gluteus medius muscle activation patterns as a predictor of low back pain during standing. *Clin Biomech*. 2008;23(5):545-553.
28. Brandenburg SL, Reusch JE, Felder KK, **Nelson-Wong E**, Lindenfeld J, Manco-Johnson M, Regensteiner JG. Impaired fibrinolysis in premenopausal women and age-matched men with Type 2 diabetes mellitus: a pilot study. *J Invest Med*. 2002;50(2):110-115.

\* indicates DPT student 1st author, \*\* indicates undergraduate student 1st author, \*\*\* indicates PhD student/candidate 1st author

### **Refereed Publications – Book Chapters**

1. Callaghan JP, **Nelson-Wong E**. (2012) Existing muscle synergies and low back pain: A case for preventative intervention. In *Spinal Control: the Rehabilitation of Back Pain* ed. P. Hodges, J. van Dieen & J. Cholewicki, Elsevier.



**Scholarly Activities: Presentations****Refereed Presentations**

1. **Nelson-Wong E**, Gallagher K, Antonioli C, Ferguson A, Harris S, Johnson E, Johnson H, Miller JB. Standing-intolerant office workers can improve low back pain and active standing with sit-stand desk use. International Society of Bioemchanics, Calgary, AB, Canada, Aug 2019.
2. \*\*\*Viggiani D, Barrett JM, Fewster KM, Davidson BS, **Nelson-Wong E**, Callaghan JP. The usefulness of adaptable multi-muscle co-activity measures in the trunk. International Society of Bioemchanics, Calgary, AB, Canada, Aug 2019.
3. Baum BS, Sepp LA, **Nelson-Wong E**, Silverman AK. Prosthetic design influences peak joint moments during running. International Society of Bioemchanics, Calgary, AB, Canada, Aug 2019.
4. \*\*\*Sepp LA, **Nelson-Wong E**, Baum BS, Silverman AK. Lower-limn muscle activity in runners with a transtibial amputation. International Society of Bioemchanics, Calgary, AB, Canada, Aug 2019.
5. \*\*\*Sepp LA, Baum BS, **Nelson-Wong E**, Silverman AK. Hip joint contact forces during running with a transtibial amputation. International Society of Bioemchanics, Calgary, AB, Canada, Aug 2019.
6. \*\*\*Sepp LA, Baum BS, **Nelson-Wong E**, Silverman AK. Quantifying hip joint contact loads in runners with a transtibial amputation. *Rocky Mountain American Society of Biomechanics Annual Proceedings*. April 5-6, 2019, Estes Park, CO (Podium Presentation)
7. \*\*\*Sepp LA, **Nelson-Wong E.**, Baum BS, and Silverman AK. Neuromuscular control in runners with a transtibial amputation using daily-use and running-specific prostheses. *Rocky Mountain American Society of Biomechanics Annual Proceedings*. April 5-6, 2019, Estes Park, CO (Poster Presentation) \*Winner Best Conference Poster Doctoral Student
8. \*\*Hirschman C, Sepp LA, **Nelson-Wong E**, Silverman AK, Baum BS. Tibia angle and ground reaction forces during running in individuals with unilateral transtibial amputation. *Rocky Mountain American Society of Biomechanics Annual Proceedings*. April 5-6, 2019, Estes Park, CO (Rapid Podium Presentation)
9. \*\*Hirschman C, Haimbaugh C, Sepp LA, **Nelson-Wong E**, Silverman AK, Baum BS. Lumbopelvic range of motion in individuals with transtibial amputations across a range of speeds. *Rocky Mountain American Society of Biomechanics Annual Proceedings*. April 5-6, 2019, Estes Park, CO (Poster Presentation)
10. Baum BS, Sepp LA, **Nelson-Wong E**, Silverman AK. Does Prosthetic Design Influence Peak Joint Moments during Running? *International Research Forum on Biomechanics of Running-Specific Prostheses*, National Institute of Advanced Industrial Science and Technology (AIST), February 21, 2019 Tokyo, Japan.
11. \*\*\*Sepp LA, **Nelson-Wong E**, Baum BS, Silverman AK. Muscle Activity during Running with a Unilateral Transtibial Amputation. *International Research Forum on Biomechanics of Running-Specific Prostheses*, National Institute of Advanced Industrial Science and Technology (AIST), February 21, 2019, Tokyo, Japan.
12. \*Graber K, Loverro K, Baldwin M, **Nelson-Wong E**, Lewis C. *Hip Musculature Activity During Walking With and Without Unilateral Weight*. Combined Sections Meeting of the American Physical Therapy

Association, Feb 2019, Washington DC.

13. \*Johnson E, Antonioli C, Ferguson A, Harris S, Johnson H, Miller JB, **Nelson-Wong E**. *Enabling Office Workers with Standing-Induced Back Pain to Utilize Standing Desks*. Combined Sections Meeting of the American Physical Therapy Association, Feb 2019, Washington DC.
14. Baum B, Sepp L, **Nelson-Wong E**, Silverman A. *Vertical Ground Reaction Forces and Loading Rates when Running with Running-Specific and Daily Use Prostheses*. American Society of Biomechanics, Rochester, MN, Aug 8-11, 2018.
15. \*Eustace A, Sepp L, Baum B, **Nelson-Wong E**, Silverman A. *Effect of Number of Segments in a Running-Specific Prosthesis Model on Hip and Knee Kinetics*. American Society of Biomechanics, Rochester, MN, Aug 10, 2018, (Finalist – Undergraduate Student Poster Competition).
16. \*\*\*Sepp L, Baum B, **Nelson-Wong E**, Silverman A. *Hip Work During Running Using Daily-Use and Running-Specific Prostheses*. American Society of Biomechanics, Rochester, MN, Aug 10, 2018, (Rapid Podium Presentation).
17. \*\*\*Sepp L, Baum B, **Nelson-Wong E**, Silverman A. *Hip Work in Runners with a Unilateral Transtibial Amputation*. World Congress of Biomechanics, Dublin, Ireland, July 8-12, 2018 (Podium Presentation).
18. \*\*Eustace A, Sepp L, Baum B, **Nelson-Wong E**, Silverman A. *Segment Model Definition of Running-Specific Prostheses Influences Joint Kinetic Calculations*. Rocky Mountain Regional Meeting of the American Society of Biomechanics, Estes Park, CO, April 13-14, 2018 (Poster Presentation).
19. \*\*Hooker K, Haimbaugh C, Sepp L, **Nelson-Wong E**, Silverman A, Baum B. *Ankle Power While Running with Daily Use and Running-Specific Prostheses*. Rocky Mountain Regional Meeting of the American Society of Biomechanics, Estes Park, CO, April 13-14, 2018 (Poster Presentation).
20. \*\*Cadman J, Noll S, Vital O, Sepp L, **Nelson-Wong E**, Silverman A, Baum B. *Vertical, Braking, and Propulsive Impulses when Running with Daily Use and Running-Specific Prostheses*. Rocky Mountain Regional Meeting of the American Society of Biomechanics, Estes Park, CO, April 13-14, 2018 (Poster Presentation).
21. \*Pryor N, Jacobs D, Jordan K, Koch K, Sepp L, **Nelson-Wong E**, Silverman A, Baum B. *Lower Extremity Joint Forces when Running with Daily use and Running-Specific Prostheses*. Rocky Mountain Regional Meeting of the American Society of Biomechanics, Estes Park, CO, April 13-14, 2018 (Podium Presentation).
22. \*Ferguson A, Johnson E, Antonioli C, Harris S, Johnson H, Miller JB, **Nelson-Wong E**. *Effects of an Intervention Program for Increasing Standing Tolerance in Standing-Intolerant Office Workers*. Rocky Mountain Regional Meeting of the American Society of Biomechanics, Estes Park, CO, April 13-14, 2018 (Poster Presentation).
23. \*Longacre C, Baker L, Passarelli C, Renslo A, Riggs D, Tollis R, Viggiani D, Davidson B, Callaghan JP, **Nelson-Wong E**. *Males Utilize a Trunk Stiffening Strategy for Returning to Stand from Flexion Compared to Females Regardless of Low Back Pain Status and Standing Tolerance*. Combined Sections Meeting of the American Physical Therapy Association, New Orleans, LA, Feb 23, 2018 (Poster

Presentation).

24. \*Renslo A, Baker L, Longacre C, Passarelli C, Riggs D, Tollis R, Viggiani D, Davidson B, Callaghan JP, **Nelson-Wong E**. *Muscle Sequencing During Standing Flexion Differs Between Males and Females Independent of Low back Pain Status and Standing Tolerance*. Combined Sections Meeting of the American Physical Therapy Association, New Orleans, LA, Feb 23, 2018 (Poster Presentation).
25. Baum BS, Sepp LA, **Nelson-Wong E**, Silverman AK. *Ground Reaction Forces and Loading Rates when Running with Running-Specific and Daily Use Prostheses*. International Research Forum on Biomechanics of Running-Specific Prostheses, Tokyo, Japan, Feb 2018 (Podium Presentation).
26. \*\*\*Sepp LA, Baum BB, **Nelson-Wong E**, Silverman AK. *Dynamic Balance During Running Using Running-Specific Prostheses*. American Society of Biomechanics Annual Meeting, Boulder, CO, Aug 9, 2017 (Rapid Podium Presentation).
27. \*Baker L, Longacre C, Passarelli C, Renslo A, Riggs, D, Tollis R, Viggiani D, Davidson B, Callaghan JP, **Nelson-Wong E**. *Flexion Relaxation Response Between People With and Without Standing Induced Low Back Pain and a Clinical Comparison Group*. American Society of Biomechanics Annual Meeting, Boulder, CO, Aug 9, 2017 (Poster Presentation).
28. \*\*\*Glinka M, **Nelson-Wong E**, Noguchi M, Langevin H, Callaghan JP. *Movement Restriction Affects Thoracolumbar Fascia Stiffness in a Porcine Model*. American Society of Biomechanics Annual Meeting, Boulder, CO, Aug 10, 2017 (Podium Presentation).
29. \*\*\*Viggiani D, Davidson B, Callaghan JP, **Nelson-Wong E**. *A Comparison of Muscle Activity During Spine Extension in People With and Without Standing-Induced Back Pain, and Those With Chronic Low Back Pain*. American Society of Biomechanics Annual Meeting, Boulder, CO, Aug 9, 2017 (Poster Presentation).
30. \*\*\*Viggiani D, Mannen E, **Nelson-Wong E**, Wong A, Ghiselli G, Shelburne K, Callaghan JP, Davidson B. *Time-Varying Contributions to Lumbar Lordosis During an Unstable Sitting Task in People Who Do and Do Not Develop Low Back Pain During Standing*. American Society of Biomechanics Annual Meeting, Boulder, CO, Aug 9, 2017 (Thematic Poster Presentation).
31. \*\*\*\*Soliday KM, Board WJ, **Nelson-Wong E**, Reiser RF. *The Effect of Prolonged Standing on Weight-Bearing and Muscle Activation Asymmetries*. American Society of Biomechanics Annual Meeting, Boulder CO, Aug. 10, 2017 (Poster Presentation).
32. \*Passarelli C, Baker L, Longacre C, Renslo A, Riggs D, Tollis R, Viggiani D, Davidson B, Callaghan J, **Nelson-Wong E**. *Males and Females Exhibit Differences in Flexion Relaxation Response Independent of Low Back Pain Status*. Rocky Mountain Regional Meeting of the American Society of Biomechanics, Estes Park, CO, April 7-8, 2017 (Poster Presentation)
33. \*\*\*Sepp L, Baum B, **Nelson-Wong E**, Silverman A. *Whole Body Angular Momentum During Running Using Running-Specific Prostheses*. Rocky Mountain Regional Meeting of the American Society of Biomechanics, Estes Park, CO, April 7-8, 2017 (Poster Presentation).

34. \*Engelsgjerd A, Lyle A, Edgar K, Appel A, Clay N, Hill L, Leeseberg E, **Nelson-Wong E**. *Influence of Sacroiliac Bracing on Trunk Musculature Co-activation During Return to Stand from Forward Flexion in Standing-Tolerant and Standing-Intolerant Individuals*. URSC Celebration of Scholarship and Research, Denver, CO, April 11, 2017 (Poster Presentation).
35. \*\*\*Viggiani D, **Nelson-Wong E**, Callaghan JP. *Posterior Muscle Timing and Lumbopelvic Rhythm in Persons with Chronic, Transient and No Low Back Pain in a Sit-to-Stand Task*. Ontario Biomechanics Conference, Alliston, ON, Can, March 10-12, 2017 (Podium Presentation).
36. \*\*\*Glinka M, **Nelson-Wong E**, Noguchi M, Langevin H, Maple R, Fox J, Callaghan JP. *Injury and Movement Restriction Affect Thoracolumbar Fascia Stiffness in a Porcine Model*. Ontario Biomechanics Conference, Alliston, ON, Can, March 10-12, 2017 (Podium Presentation).
37. \*Edgar K, Appel A, Clay N, Engelsgjerd A, Hill L, Leeseberg E, Mayer A, **Nelson-Wong E**. *Influence of Sacroiliac Bracing on Trunk Coactivation During Return to Stand in Healthy People who are Standing Intolerant*. Combined Sections Meeting of the American Physical Therapy Association, San Antonio, TX, Feb 16, 2017 (Poster Presentation)
38. \*\*\*Glinka M, **Nelson-Wong E**, Noguchi M, Langevin H, Maple R, Fox J, Callaghan JP. *Changes in the Viscoelastic Properties of Porcine Thoracolumbar Fascia in Response to a Local Surgical Injury*. Canadian Society for Biomechanics Annual Meeting, Hamilton, ON, July, 2016 (Poster Presentation).
39. **Nelson-Wong E**, Glinka M, Noguchi M, Langevin H, Maple R, Fox J, Callaghan JP. *Stress Relaxation Response is Decreased in Porcine Thoracolumbar Fascia Following Surgical Injury*. Canadian Society for Biomechanics Annual Meeting, Hamilton, ON, July, 2016 (Podium Presentation).
40. **Nelson-Wong E**, Glinka M, Noguchi M, Langevin H, Maple R, Fox J, Callaghan JP. *Mechanical Response to Thoracolumbar Fascia Injury Using a Porcine Model*. American Society of Biomechanics Annual Meeting, Raleigh, NC, August, 2016 (Poster Presentation).
41. \*\*\*\*Soliday K, **Nelson-Wong E**, Reiser, R. *The Effect of Prolonged Standing on Ground Reaction Force Control*. Rocky Mountain ASB Annual Meeting, Estes Park, CO, April 16, 2016 (Poster Presentation).
42. \*Ingerson E, Renfrow C, Ferger N, Jacques E, Olson B, Sachs A, **Nelson-Wong E**. *Clinical Response to Stabilization Based Exercise in a Subgroup of Individuals with Low Back Pain*. Rocky Mountain ASB Annual Meeting, Estes Park, CO, April 16, 2016 (Poster Presentation).
43. \*Ingerson E, Renfrow C, Ferger N, Jacques E, Olson B, Sachs A, **Nelson-Wong E**. *Clinical Response to Stabilization Based Exercise in a Subgroup of Individuals with Low Back Pain*. Combined Sections Meeting of the American Physical Therapy Association, Anaheim, CA, Feb 18, 2016 (Poster Presentation).
44. **Nelson-Wong E**. *Extensor Muscle Sequencing During Return to Stand in a Subgroup of Individuals with Low Back Pain: Response To Exercise*. American Society of Biomechanics, Columbus, OH, August 7, 2015 (Thematic Poster Presentation).
45. \*\*Sheahan P, **Nelson-Wong E**, Fischer S. *A Review and Update on the International Status and Usage of Cross-Culturally Adapted Versions of the Oswestry Disability Index*. International Conference on

Applied Human Factors and Ergonomics, Las Vegas, NV, July 28, 2015 (Podium Presentation).

46. \*Holmes K, Burks M, Anderson C, Artery J, Kealy L, Olson G, Sercel K, Littmann A, **Nelson-Wong E**. *Muscular Bracing as an Effective Strategy for Maintaining Lumbopelvic Control*. Rocky Mountain Regional Meeting of the American Society of Biomechanics, Estes Park, CO, April 17, 2015 (Poster Presentation).
47. \*\*\*\*Soliday K, Board WJ, **Nelson-Wong E**, Reiser RF. *The Effect of Prolonged Standing on Weight-Bearing and Muscle Activation Asymmetries*. Rocky Mountain Regional Meeting of the American Society of Biomechanics, Estes Park, CO, April 18, 2015 (Podium Presentation).
48. \*\*\*\*Soliday K, Board WJ, **Nelson-Wong E**, Reiser RF. *The Effect of Prolonged Standing on Weight-Bearing and Muscle Activation Asymmetries*. Rocky Mountain Regional Meeting of the American College of Sports Medicine, Ft. Collins, CO, March, 2015 (Podium Presentation).
49. **Nelson-Wong E**, Bartha DA, Beltran M, Dominguez D, Lachtman D, Messerli A, Miller S, Davis AM. *Rater Reliability of Single and Dual Incliniometry in the Cervical Spine: Does Experience Make a Difference?* Combined Sections Meeting of the American Physical Therapy Association, Indianapolis, IN, February, 2015 (Poster Presentation).
50. \*Lachtman D, Bartha DA, Beltran M, Dominguez D, Messerli A, Miller S, Davis AM, **Nelson-Wong E**. *Concurrent Validity of Single and Dual Incliniometry for Assessing Cervical Lateral Flexion*. Combined Sections Meeting of the American Physical Therapy Association, Indianapolis, IN, February, 2015 (Poster Presentation).
51. \*Bishop K, Bandelier J, Bissett S, **Nelson-Wong E**, Davis AM. *Can Observation-Based Tests of Lumbopelvic Control Discriminate Between Runners with and without a History of Running Related Injuries?* Combined Sections Meeting of the American Physical Therapy Association, Indianapolis, IN, February, 2015 (Poster Presentation).
52. \*Burks M, Anderson C, Artery J, Holmes K, Kealy L, Olson G, Sercel K, Littman A, **Nelson-Wong E**. *Muscular Bracing as an Effective Strategy for Maintaining Lumbopelvic Control During Frontal Plane Stability Challenges in a Subgroup of Patients with Low Back Pain*. Combined Sections Meeting of the American Physical Therapy Association, Indianapolis, IN, February, 2015 (Podium Presentation).
53. **Nelson-Wong E**, Callaghan JP. *Low Back Pain Development During Standing Predicts Future Clinical Low Back Pain in Previously Asymptomatic Individuals*. World Congress of Biomechanics, Boston, MA, July, 2014 (Poster Presentation).
54. Davis AM, Brodie A, Burgemeister M, Conley M, Greiner E, Hargrove J, Kernan K, **Nelson-Wong E**. *Is the Active Hip Abduction Test a Valid Assessment Tool for Lumbopelvic Control in Pregnant Women?* Combined Sections Meeting of the APTA, Las Vegas, NV, Feb 4, 2014. (Podium Presentation)
55. \*Bourgeois G, DeGrandis C, Hamilton N, Kirven I, Pieratt K, Thornton W, **Nelson-Wong E**. *Neuromuscular Strategies During Frontal Plane Movement in a Subgroup of Subjects with Low Back Pain: Implications of Poor Lumbopelvic Control*. Combined Sections Meeting of the APTA, Las Vegas, NV, Feb 4, 2014. (Poster Presentation)

56. **Nelson-Wong E**, Bourgeois G, DeGrandis C, Hamilton N, Kirven I, Pieratt K, Thornton W. *Lumbopelvic Control During Frontal Plane Motion and Hip Muscle Activation in Low Back Pain Cases versus Controls*. American Society of Biomechanics, Omaha, NE, Sept 8, 2013 (Podium Presentation)
57. Seay J, **Nelson-Wong E**. *Biomechanical Factors Related to the Etiology of Low Back Pain*. Annual Meeting of the American College of Sports Medicine, Indianapolis, IN, June, 2013 (Podium Symposium).
58. \*Pieratt K, Bourgeois G, DeGrandis C, Hamilton N, Kirven I, Thornton W, **Nelson-Wong E**. *Lumbopelvic Control and Hip Muscle Activation in Low Back Pain Cases vs Controls*. Rocky Mountain American Society of Biomechanics Regional Meeting, Estes Park, CO, April 2013 (Poster Presentation).
59. Eigsti H, Hammerich A, Ellison N, **Nelson-Wong E**. *Effect of Learning Preferences and Lecture Handouts on Student Performance*. Teacher-Scholar Forum, Metropolitan State University, Denver, CO, February, 2013 (Podium Presentation)
60. **Nelson-Wong E**, Eigsti H, Hammerich A, Ellison N. *Influence of Lecture Handout Completeness on Student Learning in a Physical Therapy Curriculum*. American Physical Therapy Association, Combined Sections Meeting, San Diego, CA, January, 2013 (Podium Presentation).
61. \*Gallant P, Alexander S, McClenahan B, Dehmer K, Ingvalson S, Piatte A, Poupore K, Davis AM, **Nelson-Wong E**. *Does Combined Frontal and Sagittal Plane Assessment Improve Discrimination of People with Low Back Pain?* Combined Sections Meeting of the American Physical Therapy Association, San Diego, CA, January, 2013 (Podium Presentation).
62. \*Poupore K, Dehmer K, Ingvalson S, Piatte A, Alexander S, McClenahan B, Gallant P, Davis AM, **Nelson-Wong E**. *Muscle Activation During Frontal and Sagittal Plane Movement: Differences Between Patients with Low Back Pain and Matched Controls*. Combined Sections Meeting of the American Physical Therapy Association, San Diego, CA, January, 2013 (Poster Presentation).
63. **Nelson-Wong E**, Eigsti H, Hammerich A, Ellison N. *Influence of Lecture Slide Completeness on Student Learning in a Biomechanics Course Within a Physical Therapy Curriculum*. American Society of Biomechanics, Annual Meeting, Gainesville, FL., August, 2012 (Podium Presentation).
64. **Nelson-Wong E**, Benz A, Bridge P, Craig K, Miller J, Stobie WM, Davis AM. *Altered Neuromuscular Control During the Active Hip Abduction Test: A Case Control Study*. Canadian Society for Biomechanics, Vancouver, BC, Canada, May, 2012 (Poster Presentation).
65. \*Csepe D, Alex B, Lancaster D, Callaghan JP, **Nelson-Wong E**. *Differences and Response to Exercise in Extensor Muscle Sequencing During Return to Stand From Lumbar Flexion in Subjects That Develop Low Back Pain During Standing*. American Physical Therapy Association, Combined Sections Meeting, Chicago, IL, February, 2012 (Poster Presentation).
66. \*Stobie WM, Miller JA, Bridge PM, Craig KD, Benz AJ, Davis AM, **Nelson-Wong E**. *Muscle Activation Differences Between People with and without Low Back Pain During the Active Hip Abduction Test: An Exploratory Study*. American Academy of Orthopaedic Manual Physical Therapists, Annual Meeting, Anaheim, CA, October, 2011 (Poster Presentation).

67. **Nelson-Wong E**, Alex B, Csepe D, Lancaster D, Callaghan, JP. *Muscle Recruitment During Return to Stand From Forward Flexion is Altered in People who Develop Low Back Pain During Prolonged Standing*. American Society of Biomechanics, Annual Meeting, Long Beach CA, August, 2011 (Podium Presentation).
68. \*\*\*Gallagher K, **Nelson-Wong E**, Callaghan, JP. *Does the Development of Transient Low Back Pain Affect Postural Changes During Prolonged Standing?* American Society of Biomechanics, Annual Meeting, Long Beach CA, August, 2011. \*Force and Motion Foundation Award
69. \*McKay M, Nawaz H, Appell R, Roth J, Sigler R, Third J, Walker M, **Nelson-Wong E**. *Increased Fall Risk is Associated with Elevated Co-contraction About the Ankle in Older Adults*. Rocky Mountain American Society of Biomechanics Regional Meeting, Estes Park, CO, April 2011 (Poster Presentation).
70. \*Lancaster D, Alex B, Csepe D, Callaghan JP, **Nelson-Wong E**. *Recruitment of Musculature During the Extension Phase of Lumbar Forward Flexion is Altered in People who Develop Low Back Pain During Prolonged Standing*. Rocky Mountain American Society of Biomechanics Regional Meeting, Estes Park, CO, April 2011 (Poster Presentation).
71. \*\*\*Gallagher K, **Nelson-Wong E**, Callaghan, JP. *Postural Control and the Development of Transient Low Back Pain*. Ontario Biomechanics Conference, Barrie, ON, Canada, March 2011 (Podium Presentation).
72. \*Appell RK, Nawaz H, McKay M, Roth J, Sigler RL, Third JN, Walker MO, **Nelson-Wong E**. *Muscle Co-contraction About the Ankle is Associated With Fall-risk in Older Adults*. American Physical Therapy Association, Combined Sections Meeting, New Orleans, LA, February, 2011 (Podium Presentation). \*Marilyn Gossman Graduate Award Seminar.
73. **Nelson-Wong E**, Howarth SJ, Callaghan JP. *Acute Biomechanical Responses to a Prolonged Standing Exposure: Implications for Job Rotation Design*. American Society of Biomechanics, Providence, RI, August, 2010 (Poster Presentation).
74. **Nelson-Wong E**, Callaghan JP. *Repeatability of Motor Control Patterns During Prolonged Standing in People with and without Standing-Induced Low Back Pain*. Canadian Society for Biomechanics, Kingston, ON, Canada, June, 2010 (Poster Presentation).
75. **Nelson-Wong E**, Callaghan JP. *The Impact of a Sloped Surface on Low Back Pain and Muscle Activation Patterns During Standing Work*. Canadian Society for Biomechanics, Kingston, ON, Canada, June, 2010 (Podium Presentation).
76. **Nelson-Wong E**, Callaghan JP. *Changes in Muscle Activation Patterns and Subjective Low Back Pain Ratings During Standing in Response to an Exercise Intervention*. American Physical Therapy Association, Combined Sections Meeting, San Diego, CA, February, 2010 (Podium Presentation). \*Marilyn Gossman Graduate Award Seminar.
77. **Nelson-Wong E**, Callaghan JP. *Is Muscle Co-activation a Causal Factor for Low Back Pain Development During Standing?* Ontario Biomechanics Conference, Barrie, ON, Canada, March 2009 (Podium Presentation). \*Finalist for Canadian Society for Biomechanics Doctoral Award.

78. **Nelson-Wong E**, Flynn TW, Callaghan JP. *Active Hip Abduction: A Proposed Screening Test for Identification of Low Back Pain Developers*. American Physical Therapy Association, Combined Sections Meeting, Las Vegas, NV, February, 2009 (Poster Presentation).
79. **Nelson-Wong E**, Howarth SJ, Winter DA, Callaghan JP. *Application of Cross Correlation Analyses for the Rehabilitation and Movement Scientist*. American Physical Therapy Association, Combined Sections Meeting, Las Vegas, NV, February, 2009 (Poster Presentation).
80. **Nelson-Wong E**, Callaghan JP. *Is Muscle Co-Activation a Predisposing Factor for Low Back Pain Development During Standing?* American Society of Biomechanics, State College, PA, August, 2009 (Podium Presentation).
81. **Nelson-Wong E**, Gregory DG, Winter DA, Callaghan JP. *Muscle Co-activation as a Predictor for Who Will Develop Low Back Discomfort During a Prolonged Standing Task*. American Physical Therapy Association, Combined Sections Meeting, Nashville, TN, February, 2008 (Podium Presentation).  
\*Marilyn Gossman Graduate Award Seminar.
82. **Nelson-Wong E**, Gregory DE, Winter DA, Callaghan JP. *Gender Differences in Postural Control During Prolonged Standing*. North American Congress on Biomechanics, Ann Arbor, MI. August, 2008 (Poster Presentation).
83. Callaghan JP, Durkin J, Gregory DG, **Nelson-Wong E**. *Can Low Level EMG be Used to Predict Subjective Discomfort Scores?* International Society of Electromyography and Kinesiology, Niagara Falls, ON, Canada, May 2008 (Podium Presentation).
84. **Nelson-Wong E**, Gregory DG, Winter DA, Callaghan JP. *Postural Control Strategies During Prolonged Standing: Is There a Relationship with Low Back Discomfort?* American Society of Biomechanics, Palo Alta, CA, August, 2007 (Podium Presentation).
85. **Nelson-Wong E**, Gregory DG, Winter DA, Callaghan JP. *Postural Control Strategies During Prolonged Standing: Is There a Relationship with Low Back Discomfort?* Ontario Biomechanics Conference, Barrie, ON, Canada, March 2007 (Podium Presentation).
86. **Nelson-Wong E**, Miyasike-da-Silva V, Tomescu S, King E, Patla AE. *Path Selection Strategies During Walking Through Tall Obstacles*. Canadian Society for Biomechanics, Waterloo, ON, Canada, August, 2006 (Poster Presentation).
87. **Nelson-Wong E**, Kenny-Scherber C, Patla AE. *Where do People Look When Walking in a Stepping Stone Environment?* Canadian Society for Biomechanics, Waterloo, ON, Canada, August, 2006 (Poster Presentation).
88. Miyasike-da-Silva V, **Nelson-Wong E**, Tomescu S, Patla AE. *Young and Older Adults in a Simulated Forest: Path Selection Strategies*. International Computational Neuroscience Symposium, Montreal, QC, Canada, May, 2006 (Poster Presentation).
89. Miyasike-da-Silva V, **Nelson-Wong E**, Tomescu S, Patla AE. *Walking Through a Forest: Route Selection Strategies*. Ontario Biomechanics Conference, Barrie, ON, Canada, March 2006 (Podium



Presentation).

90. **Nelson-Wong E**, Kenny-Scherber C, Patla AE. *Gaze Fixations in a Constrained Stepping Task: Elevated and Non-Elevated Stepping Stones*. Ontario Biomechanics Conference, Barrie, ON, Canada, March 2006 (Podium Presentation).

\* indicates DPT student 1st author, \*\* indicates undergraduate student 1st author, \*\*\* indicates PhD student/candidate 1st author, \*\*\*\* indicates MSc student 1st author

### **Invited Talks (Non-Refereed Presentations)**

1. **Nelson-Wong E**. *Breaking Down the Barriers in our Understanding of Low Back Pain*. KIN@50: Looking Back, Moving Forward, April 27, 2018, University of Waterloo, Waterloo, Ontario, Canada.
2. **Nelson-Wong E**. *Evaluation Methods for Students*. Teaching Roundtable, American Society of Biomechanics Annual Meeting, Boulder CO, Aug 10, 2017.
3. **Nelson-Wong E**. *Tips and Strategies for Success in Science*. Women in Science Mentoring Breakfast, Canadian Society for Biomechanics Annual Meeting, Hamilton, ON, July 21, 2016.
4. **Nelson-Wong E**. *Multiplanar Assessment in People with Low Back Pain: Linking Biomechanics with Traditional Clinical Approaches*. Biomechanics Graduate Seminar, Department of Kinesiology, Faculty of Applied Health Sciences, University of Waterloo, Waterloo, ON, Canada, Jan 28, 2016.
5. **Nelson-Wong E**. *Winding Roads* Invited Keynote, Alpha Delta Epsilon Honor Society, Regis University, Denver, CO, April 25, 2015.
6. **Nelson-Wong E**. *Multiplanar Assessment in People with Low Back Pain: Can Biomechanical Approaches Lead to Improved Clinical Outcomes?* Health and Exercise Science Graduate Seminar, Colorado State University, Ft. Collins, CO, Oct 9, 2015.
7. **Nelson-Wong, E**. *Teaching Tips for First-Time Biomechanics Instructors*. American Society of Biomechanics, Annual Meeting, Columbus, OH, Aug 5, 2015.
8. **Nelson-Wong E**. *The Importance of Ergonomics in the Workplace*. Workplace Safety Month, Regis University, Denver CO, Nov 6, 2014.
9. **Nelson-Wong, E**. *Imposter Stories*. Women in Science Breakfast, World Congress on Biomechanics, Boston, MA, July 9, 2014
10. **Nelson-Wong E**. *Navigating a Teaching Focused Institution*. Faculty Mentoring Session, American Society of Biomechanics, Annual Meeting, Omaha NE, Sep 6, 2013.
11. **Nelson-Wong E**. *Alternate Planes of Existence: Strategies to Integrate Multi-planar Assessment in Patients with Low Back Pain*. United States Army Research Institute for Environmental Medicine, Natick, MA, April 2, 2013.

12. **Nelson-Wong, E.** *Notability: a note-taking and annotation tool for iPads.* Regis University Learning Technology Fair, Denver, CO, Feb 22, 2013
13. **Nelson-Wong E,** Herzog W, Yack J, Martin P. *A Tribute to Dr. David Winter.* American Society of Biomechanics, Annual Meeting, Gainesville, FL., August, 2012 (Keynote Presentation).
14. **Nelson-Wong E,** Davis AM. *A New Clinical Test Shows Differences in Muscle Activation Strategies Between Individuals With Low Back Pain and Healthy Controls.* Rueckert-Hartman College of Health Professions Faculty Forum, Denver, CO, January, 2012.
15. **Nelson-Wong E.** *Muscle Synergies and Low Back Pain: A Case for Preventative Intervention.* Rueckert-Hartman College of Health Professions Faculty Forum, Denver, CO, February, 2010.
16. **Nelson-Wong E.** *Muscle Synergies and Low Back Pain: A Case for Preventative Intervention.* Regis University School of Physical Therapy, Clinical Grand Rounds, Denver, CO, January, 2010.

### Grant Activity

#### Active Grants

#### Completed Grants

1. *Comparing Running-Specific and Traditional Prostheses during Running: Assessing Performance and Risk.* (\$697,999.00) Brian Baum (PI), Anne Silverman (Co-I), **Erika Nelson-Wong (Co-I).** United States Department of Defense (DoD) Orthotics and Prosthetics Outcomes Research Award, Award #W81XWH-15-1-0518, August 20, 2015 – August 19, 2018.
2. *Enabling Office Workers with Standing Induced Back Pain to Utilize Standing Desks.* (\$500.00) Johnson E., **Nelson-Wong E (PI).** January, 2019, Regis University, University Research and Scholarship Council (URSC), Student Travel Grant.
3. *Does an Individualized Intervention Improve Standing Tolerance in Standing-Intolerant Office Workers?(\$4961.45) Nelson-Wong E (PI)* Nov 15, 2017 – April 30, 2018, Regis University, University Research and Scholarship Council (URSC), Faculty Research Grant.
4. *Muscle sequencing during standing flexion differs between males and females independent of low back pain and standing tolerance.* (\$500.00) Renslo A., **Nelson-Wong E (PI).** February, 2018, Regis University, University Research and Scholarship Council (URSC), Student Travel Grant.
5. *Males utilize a trunk stiffening strategy for returning to stand from flexion compared to females regardless of low back pain status and standing tolerance.* (\$500.00) Longacre C., **Nelson-Wong E (PI).** February, 2018, Regis University, University Research and Scholarship Council (URSC), Student Travel Grant.
6. *Do sit-stand workstations reduce hip muscle coactivation in people who are standing-intolerant due to low back pain?(\$486.00) Ferguson A., Nelson-Wong E (PI).* Nov 15, 2017 – April 30, 2018, Regis University, University Research and Scholarship Council (URSC), Student Research Grant.
7. *Flexion Relaxation Response Between People With and Without Standing-Induced Low Back Pain and a Clinical Comparison Group.* (\$500.00) Baker L., **Nelson-Wong E.** August 2017, Regis University, University Research and Scholarship Council (URSC), Student Travel Grant.
8. *Influence of Sacroiliac Bracing on Trunk Coactivation During Return to Stand in Healthy People who are Standing Intolerant.* (\$500.00) Edgar K., **Nelson-Wong E.** Jan 2017 - Feb 2017, Regis University, University Research and Scholarship Council (URSC), Student Travel Grant.

9. *Clinical response to stabilization based exercise in a subgroup of individuals with low back pain.* (\$500.00) Ingerson E, **Nelson-Wong E** Nov, 2015 – Feb 2016, Regis University, University Research and Scholarship Council (URSC), Student Travel Grant
10. *Muscular bracing as an effective strategy for maintaining lumbopelvic control during frontal plane stability challenges in a subgroup of patients with low back pain.* (\$500.00) Burks M, Littman A, **Nelson-Wong E.** Nov, 2014 - Feb 2015, Regis University, University Research and Scholarship Council (URSC), Student Travel Grant
11. *Concurrent validity of single and dual inclinometry for measuring cervical range of motion.* (\$500.00) Lachtman D, Davis AM, **Nelson-Wong E.** Nov, 2014 - Feb 2015, Regis University, University Research and Scholarship Council (URSC), Student Travel Grant
12. *Multiplanar movements in runners.* (\$500.00) Bishop K, **Nelson-Wong E,** & Davis AM. Nov, 2014 - Feb, 2015, Regis University, University Research and Scholarship Council (URSC), Student Travel Grant
13. *Reliability and validity of single and dual inclinometry for measuring cervical range of motion.* (\$270.00) Bartha D, Beltran M, Dominguez D, Lachtman D, Messerli A, Miller S, Davis AM, **Nelson-Wong E.** Feb 15, 2014 – April 30, 2014, Regis University, University Research and Scholarship Council (URSC), Student Research Grant
14. *Multiplanar movements in runners.* (\$296.00) Bishop K, Bandelier J, Bissett S, **Nelson-Wong E,** Davis AM. Feb 15, 2014 – April 30, 2014, Regis University, University Research and Scholarship Council (URSC), Student Research Grant
15. *Neuromuscular Strategies During Frontal Plane Movement in a Subgroup of Subjects with Low Back Pain: Implications of Poor Lumbopelvic Control.* (\$500.00) Bourgeois G, **Nelson-Wong E.** Feb 15, 2014 – April 30, 2014, Regis University, University Research and Scholarship Council (URSC), Student Travel Grant
16. *Lumbopelvic Control Differences and Response to Exercise in People With and Without Low Back Pain.* (\$3949.00) **Nelson-Wong E (PI)** Nov 1, 2013 – April 30, 2014, Regis University, University Research and Scholarship Council (URSC), Faculty Research Grant.
17. *Does Combined Frontal and Sagittal Plane Assessment Improve Discrimination of People With Low Back Pain?* (\$500) Gallant P, **Nelson-Wong E.** Nov 1, 2012 – April 30, 2013, Regis University, Sponsored Projects Academic Research Council (SPARC) Student Travel Grant.
18. *Muscle Activation During Frontal and Sagittal Plane Movements in Patients with Low Back Pain and Matched Controls.* (\$500) Poupore K, **Nelson-Wong E.** Nov 1, 2012 – April 30, 2013, Regis University, Sponsored Projects Academic Research Council (SPARC) Student Travel Grant.
19. *Frontal Plane Control Response to Exercise in People with a History of Low Back Pain: A Pilot Study.* (\$500.00) Bourgeois G, DeGrandis C, Hamilton N, Kirven I, Pieratt K, Thornton W, **Nelson-Wong E.** Nov 1, 2012 – April 30, 2013, Regis University, Sponsored Projects Academic Research Council (SPARC) Student Research Grant.
20. *Qualitative Analysis of Different Lecture Slide Completeness in Physical Therapy Education: Student and Faculty Perceptions.* (\$980.59) Hammerich A, Eigsti H, Marcisz N, **Nelson-Wong E (Co-I),** May 1, 2012 – April 30, 2013, Regis University, Sponsored Projects Academic Research Council
21. *Equipment for Synchronous Collection of Muscle Activation, Force Platform, and Motion Capture Data for Biomechanical Analysis of Human Movement.* (\$2,000) **Nelson-Wong E (PI),** May 1, 2011 – April 30, 2012, Regis University, Sponsored Projects Academic Research Council (SPARC) Faculty Research Grant.
22. *Biomechanical Differences During Clinical Assessment Tests Between Patients with Low Back Pain and Matched Controls.* (\$500.00) Alexander S, Billingsley P, Dehmer K, McClenahan B, Pecoraro K, Piatte

- A, Suhadolnik S, Davis AM, **Nelson-Wong E.** Oct 15 2011 – April 30, 2012, Regis University, Sponsored Projects Academic Research Council (SPARC) Student Research Grant.
23. *Muscle Activation Differences Between People With and Without Low Back Pain During the Active Hip Abduction Test: An Exploratory Study.* (\$500.00) Stobie M, **Nelson-Wong E.** Oct 15 2011 – April 30, 2012, Regis University, Sponsored Projects Academic Research Council (SPARC) Student Travel Grant.
  24. *Muscle Recruitment During the Extension Phase of Forward Flexion is Altered in People Who Develop Low Back Pain Compared to People Who Do Not Develop Pain During Prolonged Standing.* (\$500.00) Csepe D, **Nelson-Wong E.** Oct 15 2011 – April 30, 2012, Regis University, Sponsored Projects Academic Research Council (SPARC) Student Travel Grant.
  25. *Biomechanical Differences in Sub-groups of Patients with Low Back Pain.* (Salary Buyout – 36 Contact Hours of Teaching), **Nelson-Wong E (PI)**, January 1, 2011 – May 15, 2011, Faculty Seed Grant, Regis University Rueckert-Hartman College for Health Care Professionals Council on Research and Scholarship.
  26. *Biomechanical Differences Between Sub-groups of Patients with Low Back Pain: Linking Sub-classification to Mechanism.* (\$750) **Nelson-Wong E (PI)**, Feb 15, 2011 – April 30, 2011, Regis University, Sponsored Projects Academic Research Council (SPARC) Faculty Research Grant.
  27. *Predictive Factors in Workers at Risk for Standing-Related Low Back Pain: Early Identification and Response to a Targeted Exercise Intervention.* (Mentoring Grant) **Nelson-Wong E. (PI)**, April 1, 2010 – November 30, 2011, Bone and Joint Decade Young Investigators Initiative.
  28. *Muscle Co-Contraction of the Ankle is Associated with Fall-Risk in Older Adults.* (\$500) Appell RK, **Nelson-Wong E.** Oct 15, 2010 – April 30, 2011, Regis University, Sponsored Projects Academic Research Council (SPARC) Student Travel Grants.
  29. *EMG Analysis to Determine Muscle Activation Patterns During the Active Hip Abduction Test in Healthy Individuals.* (\$500) Benz A, Bridge P, Craig K, Miller J, Stobie M, **Nelson-Wong E.** Oct 15, 2010 – April 30, 2011, Regis University, Sponsored Projects Academic Research Council (SPARC) Student Research Grants.
  30. *Inter- and Intra-rater Reliability of the Active Hip Abduction Test.* (\$750) **Nelson-Wong E, Davis AM (Co-I)**, May 1, 2010 – April 30, 2012, Colorado Spine Therapy, LLC (Foundation).
  31. *Muscle Co-Contraction of the Ankle is Associated with Fall-Risk in Older Adults.* (\$500) Appell RK, Nawaz H, McKay M, Roth J, Sigler RL, Third JN, Walker MO, **Nelson-Wong E.** Oct 15, 2009 – April 30, 2010, Regis University, Sponsored Projects Academic Research Council (SPARC) Student Research Grants.
  32. *Biomechanical Predictors of Induced, non-Specific Low Back Pain, and Motor Control Responses to a Stabilization Exercise Based Clinical Intervention.* (\$15,000) **Nelson-Wong E (PI)**, September 1, 2008 – August 31, 2009, Promotion of Doctoral Studies Award II, Foundation for Physical Therapy.
  33. *Biomechanical Predictors of Induced, non-Specific Low Back Pain, and Motor Control Responses to a Stabilization Exercise Based Clinical Intervention.* (\$7,500) **Nelson-Wong E (PI)**, September 1, 2006 – August 31, 2007, Promotion of Doctoral Studies Award I, Foundation for Physical Therapy.
  34. *Biomechanical Predictors of Induced, non-Specific Low Back Pain, and Motor Control Responses to a Stabilization Exercise Based Clinical Intervention.* (\$5,000) **Nelson-Wong E (PI)**, January 1, 2006 – August 31, 2006, Mary McMillan Doctoral Award, Foundation for Physical Therapy.

### **Grants Submitted (Not Funded)**

1. *Does an Individualized Intervention Improve Standing Tolerance in Standing-Intolerant Office Workers?* (\$129, 807.00) **Erika Nelson-Wong (PI)**, Jack P. Callaghan (Co-I). Centers for Disease Control and Prevention, PAR-12-200, NIOSH-R, July 1, 2017 – June 30, 2019.

2. *Interpreting Neuromuscular Mechanics Underlying Recurrent Back Pain: A Novel Systems Engineering and Motor Control Approach.* (\$433,714.00) Bradley Davidson (PI), Sheri Silfies (Co-I), **Erika Nelson-Wong (Co-I)**. National Institutes for Health, R-21, August 1, 2017 – July 31, 2019.
3. *An activity enabling discretely-variable 'exoskeletal' thoracic-lumbar-sacral orthosis.* (\$998,000.00). Johnson A (PI), Davidson B (Co-I), Shelburne K (Co-I), Akuthota V (Co-I), Mandelbaum M (Co-I), McIlwain S (Co-I), **Nelson-Wong E (Co-I)**. DARPA, Not selected for funding, 2014.
4. *Identifying the root causes of rotator cuff pathology related to muscle fatigue.* (\$174,000.00) Dickerson C (PI), **Nelson-Wong E (Co-I)**. Canadian Institute for Health Research (CIHR), Not selected for funding, 2014, 2015.
5. *Muscle Activation Strategies in Low Back Pain Subgroups: A Case-Control Study.* (\$305,100.00). **Nelson-Wong E (PI)**, Davis AM (Co-I). National Institutes of Health, #1R15AR062838-01. Not selected for funding, 2011.
6. *Biomechanical differences between subgroups of patients with low back pain: a missing link for sub-classification?* (\$14,929.00). **Nelson-Wong E (PI)**, Davis AM (Co-I), Little C (Co-I). Orthopaedic Section of the American Physical Therapy Association Research Grant. Not selected for funding. 2011.
7. *Biomechanical differences in sub-groups of patients with low back pain: Can the Treatment Based Classification approach be improved upon?* (\$40,000.00). **Nelson-Wong E (PI)**, Davis AM (Co-I). Foundation for Physical Therapy Research Grant. Not selected for funding. 2010.

## **Current Research Activities**

### **Manuscripts Submitted and In Preparation**

1. Viggiani D, Davidson B, **Nelson-Wong E**, Callaghan JP. An assessment of functional stability during spine extension in people with and without standing-induced low back pain, and people with chronic low back pain. In preparation.
2. Viggiani D, Mannen EM, **Nelson-Wong E**, Wong A, Ghiselli G, Shelburne K, Davidson B, Callaghan JP. *Sex-interactions in lumbar intervertebral kinematics during an unstable sitting task in people who do and do not develop low back pain during standing.* Manuscript in preparation, planned submission to *Spine*, Jan 2019.
3. Baker L, Longacre C, Passarelli C, Renslo A, Riggs D, Tollis R, Viggiani D, Davidson B, Callaghan JP, **Nelson-Wong E**. *Sex differences in muscle coactivation, sequencing, and flexion relaxation response in people with and without standing-induced back pain and a clinical comparison group.* Manuscript in preparation, planned submission to *J Appl Biomech*, Mar 2019.
4. *Impact of Counterweighting on the Trendelenburg Sign.* Lewis C (PI), **Nelson-Wong, E. (Co-I)**, 2017-2018. This project is a collaboration between Dr. Lewis (Boston University) and myself to investigate the muscle activation/motor strategy response to a counterweight intervention in individuals with gluteus medius weakness resulting in Trendelenburg Sign. The project is in the manuscript preparation phase as of December 2018.

### **Current Projects (Unfunded)**

1. *Trunk-Pelvis Muscle Activity During Pilates-Based Exercises Versus Traditional Trunk Stabilization Exercises.* Farrokhi S (PI), Mazzone B (AI), Yoder A (AI), Grant K (AI), Sleeman R (AI), Vasko B (AI), **Nelson-Wong E (AI)**, 2017-2019. This project is a collaboration between myself and researchers at the Naval Medical Center San Diego, Comprehensive, Combat, and Complex Casualty Care Department. I was asked to participate in this project to contribute my expertise in lumbopelvic motor control and electromyography. This project will investigate Pilates-based and traditional trunk stabilization exercise in people with and without lower extremity amputations. As of December April 2018, pilot data has been collected on 2 individuals with lower extremity amputation and 2 control participants.

2. *A Systematic Review of Asynchronous versus Synchronous Curricula in Health Professions Education Programs*. Hoffman L (PI), **Nelson-Wong E (Co-I)**. This project, initiated in November 2017, will help to inform curricular delivery methods for the School of Physical Therapy as we begin to investigate innovative strategies to improve and enhance the PT curriculum.

### **Scholarly Professional Activities**

#### **Grant Review**

*Natural Science Engineering Research Council (NSERC) Canada* (2017, 2012, 2010 – 5 Grants Reviewed)  
*Swiss National Science Foundation* (2016, 2015, 2013, 2012 – 6 Grants Reviewed)  
*Austrian Science Fund, Erwin Schrödinger Fellowship* (2016, 2015 – 2 Grants Reviewed)  
*UKLeuven Belgium* (2015, 2014 – 2 Grants Reviewed)  
*Mitacs, Elevate Post-Doctoral Fellowship, Canada* (2014 – 1 Grant Reviewed)

#### **Editorial Boards**

2017 – 2019 - *Journal of Applied Biomechanics* –Editorial Board Appointment

#### **Referee Positions**

Sensors (2018)  
 Archives of Physical Medicine and Rehabilitation (2006, 2014)  
 Applied Ergonomics (2012, 2017)  
 Clinical Biomechanics (2017)  
 Ergonomics (2012- 2014, 2016-2017)  
 Gait and Posture (2012- 2017)  
 Geriatrics & Gerontology (2012)  
 Human Factors (2015 - 2017)  
 Human Movement Science (2015 – 2016)  
 Journal of Applied Biomechanics (2009, 2016-2017)  
 Journal of Biomechanics (2013)  
 Journal of Electromyography & Kinesiology (2011 - 2015, 2017)  
 Journal of Orthopaedic Sports Physical Therapy (2009-2015, 2017)  
 Journal of Rehabilitation Research and Development (2009, 2013-2015)  
 Journal of Sport Rehabilitation (2013-2014)  
 Manual Therapy (2015)  
 Medical Science in Sports and Exercise (2017)  
 Medical Science Monitor (2008)  
 Muscle and Nerve (2012)  
 Physical Therapy (2013-2014)  
 Physical Therapy in Sport (2014-2015)  
 Physiotherapy Theory and Practice (2010, 2014-2016)  
 Spine (2009)

### **Professional, Scientific, Honorary Associations or Societies**

### **Membership**

American Physical Therapy Association (APTA) (1995 – present)  
APTA, Section on Research (SOR) (2005 – present)  
APTA, SOR, Biomechanics Special Interest Group (2009 – present)  
APTA, Orthopaedic Section (2007 – present)  
APTA, Orthopaedic Section, Pain Special Interest Group (2016 – present)  
Education Section (2005 – present)  
Home Health Section (2000 – 2005)  
Geriatric Section (2000 – 2005)  
American Society of Biomechanics (ASB) (2009 – present)  
Canadian Society for Biomechanics (CSB) (2005 – present)  
International Society of Biomechanics (ISB) (2005 – 2016)  
American Academy of Orthopaedic and Manual Physical Therapy (AAOMPT) (2007 – present)

### **Positions, Committees, Task Forces**

#### **International**

CSB, Abstract Review, 2016, 2018  
CSB, NDI Masters Student Awards Committee, 2016  
CSB, Chair, Lumbopelvic Platform Presentations, 2016  
World Congress on Biomechanics Abstract Review Committee (2014)  
CSB, Co-Chair Motor Control Platform Presentations, 2010

#### **National**

American Society of Biomechanics Annual Meeting Abstract Review (2010-2018)  
APTA Section on Research Abstract Review Committee (2010-2014)  
ASB, Awards, 2016  
ASB, Student Grant-in-Aid Subcommittee (Education), Chair, 2016-2018  
APTA, Section on Research, Biomechanics Special Interest Group, Awards Committee, 2013 – 2019  
ASB, Student Mentoring Program, Mentor, 2010-2017  
ASB, Education Committee Member, 2013 – 2018  
ASB, Chair, Low Back Pain Platform Presentations, 2013  
ASB, Membership Committee, Member, 2010-2013  
APTA, SOR, Chair SOR Platform Presentations, 2010

#### **Regional**

Co-Organizer, 4<sup>th</sup> Annual Rocky Mountain ASB Regional Meeting, Estes Park, Co, 2014.  
RMASB, Chair Gait and Posture Platform Presentations, 2013

#### **State**

Clinical Guidelines for Chronic Pain Management Task Force Member, Colorado Department of Labor and Employment, 2017

## **Service**

### **Service to the College/University**

#### **University**

Institutional Review Board, Chair, 2018-2019

Institutional Review Board, Member, 2013-2018

Institutional Review Board, Member (Alternate), 2011-2012

Professional Learning Community for Research (Organizer), 2016-2017

#### **College**

Search Committee for School of Pharmacy Chair, Member, 2017-2018

RHCHP Faculty Awards Committee, Member, 2015 – 2016

#### **School**

Search Committee for Senior Faculty Member (Full Professor), Chair, 2018

Awards Committee, Member, 2015 – 2018

Evidence Based Practice Task Force, Chair, 2016 – 2019

Creative Ingenuity Team, Member, 2016 - 2019

Cross-Curricular Content Team, Member, 2016 – 2019

Organize School of PT Guest Research Lecture Series, 2017-2018

Evidence Based Practice Task Force, Member, 2015 - 2016

Health and Exercise Science (HES) Team, Member, 2009 - 2016

Awards Committee, Chair, 2012 – 2015

Search Committee for HES Faculty, Co-Chair, 2014 (Successful hire: Dr. Brian Baum)

Class Advisor – DPT Class of 2013

DPT Team, Member, 2009 - 2012

Learning Technologies Clicker Task Force, Member, 2011 - 2012

Critical Inquiry (Evidence Based Practice) Team, Member, 2009 – 2011

### **Service to the Community**

#### **Community**

La Puente, Alamosa, CO – provision of pro bono physical therapy services to unsheltered and housing insecure individuals, 2019.

Autism Climbs, Boulder, CO – volunteer with organization that empowers individuals with autism, their friends and families through rock climbing activities, 2018.

Boulder Climbing Community/Foothills Climbing Community, Golden, CO - restock wag bags for human waste disposal at three rock climbing areas in Clear Creek Canyon, 2017-2018.

Colorado School of Mines, Golden CO – External judge for Engineering Practices Course Sequence Series (EPICS) projects, Dec 5, 2016.



Colorado School of Mines, Golden CO – Client for Engineering Practices Course Sequence Series (EPICS) projects, Spring 2016.

Jefferson County Open Space, CO Raptor Monitor - volunteer to observe/monitor golden eagle nesting sites in Boulder Canyon, serve as a liaison between land managers and rock climbing community, 2016-18

Boulder Climbing Community, CO USFS Eagle Monitoring Program – volunteer to observe/monitor golden eagle nesting sites in Boulder Canyon, 2016, 2018

American Alpine Club – Front Range Section, Golden, CO – wrote a grant (funded through The Access Fund Anchor Replacement Initiative) to replace unsafe fixed hardware and train climbers in fixed hardware replacement in Clear Creek Canyon, October 2015 – December 2016.

Boulder Roubaix Bicycle Road Race – provided volunteer motorcycle support for cyclist safety and traffic control, April 11, 2015.

Front Range Pika Project, CO – performed high altitude bio-surveys of pika and marmot populations as a ‘citizen scientist’ for joint projects through University of Colorado, Colorado State University, Colorado Division of Wildlife, and the Denver Zoo, 2011 – 2015

Widefield School District, Fountain CO – 4th and 5th grade science fair judge, Nov 8, 2014.

Talbott Elementary School, Fountain, CO - 4th and 5th grade science fair judge, Oct 30, 2014.

Eldorado Canyon State Park, Boulder, CO – Rebolting project to replace all fixed hardware at the Mickey Mouse Wall climbing area, Sep 20, 2014.

National Sports Center for the Disabled, Denver, CO – volunteered with the blind climbers program, assisted students from the Colorado School for the Blind learn rock climbing, 2013 - 2014.

Center for Resource Conservation Garden-in-a-Box Program, Arvada, CO – built gardens for community pick-up, May 2, 2014.

US Forest Service/Bureau of Land Management, Penitente Canyon, La Garita, CO replaced fixed hardware (bolts and anchors) for climber safety, trail building, landscaping for erosion control and safe public access, 2012 – 2014

First Ascenders, Denver, CO – volunteered with program that serves underprivileged high school kids by exposing them to opportunities in the outdoors to develop self-efficacy, confidence, teamwork and leadership skills, 2013.

Regis University – performed *pro bono* physical therapy services for ergonomic assessments to university staff members, July 2013.

Colorado School of Mines, Golden CO – External judge for Engineering Practices Course Sequence Series (EPICS) projects, May 2, 2013.

HealthFair, Golden, CO - supervise 1st year DPT students in cardiovascular risk assessments, 2010, 2012

Adopt-a-Crag Trail Days, North Table Mountain, Golden, CO, Eldorado Canyon State Park, Boulder, CO - performed trail building for erosion prevention and to improve public access, 2011 – 2012

Provision of pro bono physical therapy services to individuals in financial need, average 3 patients per year, 2009 – 2014

HERA Climb4Life, Boulder, CO – volunteered as a hiking guide for individuals with ovarian cancer and their families, worked registration and silent auction to raise funds for ovarian cancer research, 2011

Parkinson's Yoga, Asana Yoga, Golden, CO – assisted twice weekly in free community yoga classes for individuals with Parkinson's Disease, 2010 – 2011

Flagstaff Mountain Trash Bash, Boulder, CO – trash clean-up to improve community relationships between user groups at Flagstaff Mountain, 2010

Learn to Row Coach, Moline, IL – coached beginning rowers in a community based rowing program, 2003 - 2005 (US Rowing Level 1 Coach)

Multiple Sclerosis Aquatics Program Volunteer, YMCA Moline, IL – volunteered on a weekly basis to assist in a free cool-water aquatics program for individuals with MS, 2002 - 2004 (Certified in MS Aquatics Training – Illinois Chapter of the MS Society)

### **Thesis/Dissertation Committees/Advising**

Eric Folkens, PhD Student, Physical Therapy and Rehabilitation Sciences, Drexel University, Philadelphia PA, Advisor: Dr. Sheri Silfies (Committee member – 2018 – 2020)

Liana Tennant, *A Comparison of Clinical Spinal Mobility Measures to Experimentally Derived Passive Stiffness: Taking the Next Step in Applying Panjabi's Stability Model*; PhD Student, Faculty of Applied Health Sciences, Department of Kinesiology, University of Waterloo, Waterloo, ON, Advisor: Dr. Jack P. Callaghan (Research Advisor, Visiting Scholar Exchange to Regis University – 2019).

Claire Zai, MSc Student, Department of Integrative Physiology, University of Colorado, Boulder, CO, Advisor: Dr. Alena Grabowski (Committee Member – 2017 - 2018)

Robyn A. Capobianco, PhD Student, *Neuromechanical Determinants of Flexibility*, Department of Integrative Physiology, University of Colorado, Boulder, CO, Advisor: Dr. Roger Enoka (Committee Member – 2016 - 2018)

Lauren Sepp, PhD Student, *Comparing Running-Specific and Traditional Prostheses During Running*, Department of Mechanical Engineering, Colorado School of Mines, Golden, CO, Advisor: Dr. Anne Silverman (Committee Member – 2017-2018)

Daniel Viggiani, *Muscle Activation Patterns and Onset Timing in non-Clinical, pre-Clinical and Clinical Low Back Pain Groups During Tasks Involving Spine Motion*; PhD Student, Faculty of Applied Health Sciences, Department of Kinesiology, University of Waterloo, Waterloo, ON, Advisor: Dr. Jack P. Callaghan (Research Advisor, Visiting Scholar Exchange to Regis University – 2016-2017).

Daniel Viggiani, *Relating intervertebral motion of the lumbar spine to low back pain developed during standing*, PhD Student, Faculty of Applied Health Sciences, Department of Kinesiology, University of Waterloo, Waterloo, ON, Advisor: Dr. Jack P. Callaghan (Research Advisor, Visiting Scholar Exchange to University of Denver – 2016-2017).

### **DPT Student Research Supervision**

Class of 2020: *A Comparison of Clinical Spinal Mobility Measures to Experimentally Derived Passive Stiffness: Taking the Next Step in Applying Panjabi's Stability Model*. 6 DPT students, 1 PhD student.

Class of 2019: *Does an Individualized Intervention Improve Standing Tolerance in Standing-Intolerant Office Workers?* 6 students, in process. Resulted in 3 conference proceedings and 1 manuscript in preparation.

Class of 2018: *A Comparison of Muscle Activation Strategies During Lumbar Flexion in Standing Between Pain Developers, non-Pain Developers, and People with Low Back Pain*. 6 students, in process, resulted in 4 conference proceedings and 1 manuscript in preparation.

Class of 2017: *Influence of Sacroiliac Bracing on Muscle Activation in Standing Intolerant People*. 7 students, resulted in 1 conference proceeding and 1 published manuscript (student first author).

Class of 2016: *Clinical response to stabilization based exercise in a subgroup of individuals with low back pain*. 6 students, resulted in 2 conference proceedings, 1 published manuscript (student first author) \***Winner** Outstanding Student Research Award, Regis School of Physical Therapy

Class of 2015: *Multiplanar movements in runners*. 3 students (co-mentored with Dr. Alice Davis), resulted in 1 conference proceeding

Class of 2015: *Reliability and validity of single and dual inclinometry for measuring cervical range of motion*. 6 students (co-mentored with Dr. Alice Davis), resulted in 1 published manuscript, 4 conference proceedings, \***Winner** Outstanding Student Research Award, Regis School of Physical Therapy

Class of 2015: *Muscular bracing as an effective strategy for maintaining lumbopelvic control during frontal plane stability challenges in a subgroup of patients with low back pain*. 7 students, (co-mentored with Dr. Andrew Littman), resulted in 2 conference proceedings

Class of 2014: *Frontal Plane Control Response to Exercise in People with a History of Low Back Pain: A Pilot Study*. 6 students, resulted in 3 conference proceedings

Class of 2014: *Is the Active Hip Abduction Test a valid assessment tool for lumbopelvic control in pregnant women?* 6 students (co-mentored with Dr. Alice Davis), resulted in 1 conference proceeding, \***Winner** Outstanding Student Research Award, Regis School of Physical Therapy

Class of 2013: *Biomechanical Differences During Clinical Assessment Tests Between Patients with Low Back Pain and Matched Controls.* 7 students (co-mentored with Dr. Alice Davis), resulted in 2 published manuscripts, 2 conference proceedings

Class of 2012: *EMG Analysis to Determine Muscle Activation Patterns During the Active Hip Abduction Test in Healthy Individuals.* 5 students, resulted in 2 conference proceedings

Class of 2012: *Muscle Recruitment During the Extension Phase of Forward Flexion is Altered in People Who Develop Low Back Pain Compared to People Who Do Not Develop Pain During Prolonged Standing.* 3 students, resulted in 1 published manuscript, 3 conference proceedings

Class of 2011: *Muscle Co-Contraction of the Ankle is Associated with Fall-Risk in Older Adults.* 7 students, resulted in 1 published manuscript, 2 conference proceedings, \***Marilyn Gossman Seminar**

### **Teaching Responsibilities**

#### **Fall Semester – 2018**

Biomechanics and Kinesiology – Extremities, DPT 703, Course Coordinator  
 Perspectives in Persistent Pain Elective, DPT 781O, Course Coordinator  
 Critical Inquiry, DPT 776, Instructor

#### **Summer Semester – 2018**

Kinesiology II, DPT 707, Instructor  
 Evidence Based Practice I, DPT 790, Instructor

#### **Spring Semester – 2018**

Biomechanics and Kinesiology – Spine, DPT 705, Course Coordinator

#### **Fall Semester – 2017**

Biomechanics and Kinesiology – Extremities, DPT 703, Course Coordinator  
 Perspectives in Persistent Pain Elective, DPT 781O, Course Coordinator  
 DPT Comprehensive Examination (0 credit hours), DPT 799, Course Coordinator  
 Critical Inquiry, DPT 776, Instructor

#### **Summer Semester – 2017**

Kinesiology II, DPT 707, Instructor  
 Evidence Based Practice I, DPT 790, Instructor

#### **Spring Semester – 2017**

Biomechanics and Kinesiology – Spine, DPT 705, Course Coordinator  
 Biomechanics of Exercise Lab, HES 451, Instructor

#### **Fall Semester – 2016**

Biomechanics and Kinesiology – Extremities, DPT 703, Course Coordinator  
Perspectives in Persistent Pain Elective, DPT 781O, Course Coordinator  
DPT Comprehensive Examination, DPT 799, Course Coordinator  
Critical Inquiry, DPT 776, Instructor

\* Note Student Research Advising no longer considered part of Teaching Workload

**Summer Semester – 2016**

Kinesiology II, DPT 707, Instructor  
Professional Issues, DPT 771, Instructor  
Evidence Based Practice I, DPT 790, Instructor  
Student Research Advisor

**Spring Semester – 2016**

On Sabbatical – No Courses Taught  
Student Research Advisor

**Fall Semester – 2015**

Biomechanics and Kinesiology – Extremities, DPT 703, Course Coordinator  
Perspectives in Persistent Pain Elective, DPT 781O, Course Coordinator  
DPT Comprehensive Examination, DPT 799, Course Coordinator  
Critical Inquiry, DPT 776, Instructor  
Student Research Advisor

**Summer Semester – 2015**

Kinesiology II, DPT 707, Instructor  
Professional Issues, DPT 771, Instructor  
Evidence Based Practice I, DPT 790, Instructor  
Student Research Advisor

**Spring Semester – 2015**

Biomechanics and Kinesiology – Spine, DPT 705, Course Coordinator  
Biomechanics of Exercise, HES 450, Course Coordinator  
Biomechanics of Exercise Lab, HES 451, Course Coordinator  
Student Research Advisor

**Fall Semester – 2014**

Biomechanics and Kinesiology – Extremities, DPT 703, Course Coordinator  
Perspectives in Persistent Pain Elective, DPT 781O, Course Coordinator  
DPT Comprehensive Examination, DPT 799, Course Coordinator  
Critical Inquiry, DPT 776, Instructor  
Student Research Advisor

**Summer Semester – 2014**

Kinesiology II, DPT 707, Instructor  
Professional Issues, DPT 771, Instructor  
Evidence Based Practice I, DPT 790, Instructor  
Student Research Advisor

**Spring Semester – 2014**

Biomechanics and Kinesiology – Spine, DPT 705, Course Coordinator

Biomechanics of Exercise, HES 450, Course Coordinator  
Biomechanics of Exercise Lab, HES 451, Course Coordinator  
Professional Issues, DPT 773, Instructor  
Musculoskeletal Management II, DPT 735, Instructor  
Student Research Advisor

**Fall Semester – 2013**

Biomechanics and Kinesiology – Extremities, DPT 703, Course Coordinator  
Perspectives in Persistent Pain Elective, DPT 781O, Course Coordinator  
DPT Comprehensive Examination, DPT 799, Course Coordinator  
Critical Inquiry, DPT 776, Instructor  
Student Research Advisor

**Summer Semester – 2013**

Kinesiology II, DPT 707, Instructor  
Professional Issues, DPT 771, Instructor  
Evidence Based Practice I, DPT 790, Instructor  
Student Research Advisor

**Spring Semester – 2013**

Biomechanics and Kinesiology – Spine, DPT 705, Course Coordinator  
Biomechanics of Exercise, HES 450, Course Coordinator  
Professional Issues, DPT 773, Instructor  
Musculoskeletal Management II, DPT 735, Instructor  
Student Research Advisor

**Fall Semester – 2012**

Biomechanics and Kinesiology – Extremities, DPT 703, Course Coordinator  
Perspectives in Persistent Pain Elective, DPT 781O, Course Coordinator  
DPT Comprehensive Examination, DPT 799, Course Coordinator  
Critical Inquiry, DPT 776, Instructor  
Student Research Advisor

**Summer – 2012**

Kinesiology II, DPT 707, Instructor and Lab Assistant  
Professional Issues, DPT 771, Instructor  
Health and Wellness, DPT 708t, Course Coordinator  
Evidence Based Practice I, DPT 790, Instructor  
Student Research Advisor

**Spring 2012**

Kinesiology I, DPT 705, Course Coordinator  
Biomechanics of Exercise, EXS 424, Course Coordinator  
Musculoskeletal Management III, DPT 735, Instructor and Lab Assistant  
Student Research Advisor

**Fall 2011**

Biomechanics, DPT 703, Course Coordinator  
Critical Inquiry, DPT 776, Instructor

Perspectives in Persistent Pain Elective, DPT 780O, Instructor  
Anatomy, DPT 701, Lab Assistant  
Student Research Advisor

**Summer 2011**

Professional Development, DPT 770T, Course Coordinator  
Kinesiology II, DPT 707, Course Coordinator (Maternity Coverage, 1st 8 weeks only)  
Evidence Based Practice I, DPT 790, Instructor  
Student Research Advisor

**Spring 2011**

Movement Science, DPT 706, Lab Assistant  
Kinesiology I, DPT 705, Instructor and Lab Assistant  
Musculoskeletal Management III, DPT 735, Instructor and Lab Assistant  
Student Research Advisor

**Fall 2010**

Biomechanics, DPT 703, Instructor and Lab Assistant  
Critical Inquiry, DPT 776, Instructor  
Anatomy, DPT 701, Lab Assistant  
Evidence Based Practice III, DPT 792, Instructor  
Student Research Advisor

**Summer 2010**

Kinesiology II, DPT 707, Instructor and Lab Assistant  
Evidence Based Practice I, DPT 790, Instructor  
Student Research Advisor

**Spring 2010**

Biomechanics of Exercise, EXS 424, Course Coordinator  
Movement Science, DPT 706, Lab Assistant  
Kinesiology I, DPT 705, Instructor and Lab Assistant  
Musculoskeletal Management III, DPT 735 Instructor and Lab Assistant  
Evidence Based Practice IV, DPT 793, Instructor  
Evidence Based Practice II, DPT 791, Instructor and Lab Assistant  
Student Research Advisor

**Fall 2009**

Research Methods and Biostatistics, DPT776T, Course Coordinator  
Biomechanics, DPT 703, Instructor and Lab Assistant  
Critical Inquiry, DPT 776, Instructor  
Anatomy, DPT 701, Lab Assistant  
Evidence Based Practice III, DPT 792, Instructor  
Student Research Advisor

**Summer 2009**

Student Research Advisor