Erika Nelson-Wong, PT, DPT, PhD Associate Professor, Regis University School of Physical Therapy 3333 Regis Blvd., Denver, Colorado 80221

Contact Information

303-964-5484 enelsonw@regis.edu

Education

<u>University of Waterloo</u>, 200 University Ave West, Waterloo, ON, Canada, N2L3G1 <u>PhD/2009, Kinesiology/Spine Biomechanics</u>

<u>Dissertation:</u> Biomechanical Predictors of Induced, non-Specific Low Back Pain, and Motor Control Responses to a Stabilization Exercise Based Clinical Intervention

Advisor: Jack P. Callaghan, PhD

<u>University of Waterloo</u> - Centre for Teaching Excellence, 200 University Ave West, Waterloo, ON N2L3G1

Certificate in University Teaching/2008

Research Project: Implementation of Problem Based Learning in Undergraduate Kinesiology

Education

Advisor: Svitlana Taraban, PhD

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

Advisor: Judith Regensteiner, PhD/ Troy Stevens, PhD

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, PhD

Licensure and Certification

Colorado Licensed Physical Therapist, #5850, Colorado Department of Regulatory Agencies, 1997 – present, Active

Iowa Licensed Physical Therapist, #03329, Iowa State Board of Occupational and Physical Therapy Examiners, 2001 – 2005, Inactive

Illinois Licensed Physical Therapist, #070-012756, State of Illinois Department of Financial and Professional Regulation, 2001 – 2006, Inactive

Collaborative Institutional Training Initiative (CITI) – Certification for Human Research (Biomedical, Social Behavioral), Expires November, 2014.

National Institutes of Health - Human Subjects Research Training

Employment History

Academic Experience

<u>Associate Professor, Regis University, School of Physical Therapy, Denver, CO</u> (Aug 1, 2013 – present)

<u>Assistant Professor, Regis University, School of Physical Therapy, Denver, CO</u> (Aug 1, 2009 – July 31, 2013)

Affiliate Faculty, Regis University, School of Physical Therapy, Denver, CO (Mar, 2005 - May, 2009)

<u>Graduate Research Assistant, University of Waterloo, Faculty of Applied Health Sciences, Department of Kinesiology, Waterloo, ON</u> (Sep. 2006 - May, 2008)

<u>Graduate Teaching Assistant, University of Waterloo, Faculty of Applied Health Sciences, Department of Kinesiology, Waterloo, ON (Sep. 2005 – May, 2008)</u>

<u>Graduate Research Assistant, University of Waterloo, Faculty of Applied Health Sciences.</u>
<u>Department of Kinesiology, Waterloo, ON</u> (Sep, 2005 - Aug, 2006)

Affiliate Faculty, Regis University, School of Physical Therapy, Denver, CO (Jan, 1996 - May, 2000)

<u>Professional Research Assistant, University of Colorado Health Sciences Center, Denver, CO</u> (Mar, 1996 - Jun, 1997)

Clinical Experience

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

Director of Rehabilitation Services, Option Care, Moline, IL (Feb. 2003 - Mar, 2005)

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

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

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

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

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

Honors and Awards

<u>Award</u>

Force & Motion Foundation Travel Award for Best Poster Using Force Platform Data – (Gallagher, K., **Nelson-Wong, E.,** & Callaghan, J.P., poster presented at American Society of Biomechanics Annual Meeting, San Diego, CA, Aug 2011.)

Marilyn Gossman Award for Graduate Research American Physical Therapy Association - Section on Research, Faculty Supervisor. (Appell, R.K., Nawaz, H., McKay, M., Roth, J., Sigler, R.L., Third, J.N., Walker, M.O., & **Nelson-Wong, E.**, platform presentation at APTA Combined sections Meeting, New Orleans, LA, Feb 2011)

Marilyn Gossman Award for Graduate Research American Physical Therapy Association - Section on Research (Nelson-Wong, E., & Callaghan, J.P., platform presentation at APTA Combined Sections Meeting, San Diego, CA, Feb, 2010)

Bone and Joint Decade Young Investigators Initiative Mentoring Award Selected to participate in a mentored program with the goal of obtaining extramural funding for research. Bone and Joint Decade, 2010-2011

<u>Promotion of Doctoral Studies Award II</u>, Foundation for Physical Therapy, 2008-2009.

<u>Marilyn Gossman Award for Graduate Research American Physical Therapy Association - Section on Research</u> (**Nelson-Wong, E.,** Gregory, D., Winter, D.A., Callaghan, J.P., platform presentation at APTA Combined Sections Meeting, Nashville, TN, Feb 2008).

<u>Promotion of Doctoral Studies Award I</u>, Foundation for Physical Therapy, 2006-2007.

Mary McMillan Doctoral Award, Foundation for Physical Therapy, 2006.

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

Graduate Honors, Regis University (DPT degree), Dec 2004

Graduate Honors, Regis University (MSc degree), Dec 1996

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

Honor

<u>Canadian Society for Biomechanics Doctoral Award Canadian Society for Biomechanics, Finalist,</u>
Mar 2009

Scholarly Activities

Peer Reviewed Publications

Nelson-Wong, E. & Callaghan, J.P. (2013 – Submitted, In Review). Transient Low Back Pain Development During Standing Predicts Future Clinical Low Back Pain in Previously Asymptomatic Individuals. *Spine*.

Nelson-Wong, E., Poupore, K., Alexander, S., Dehmer, K., Gallant, P., Ingvalson, S., McClenahan, B., Piatte, A., Davis, A.M. (2013 – In Press). Neuromuscular Strategies for Lumbopelvic Control During Frontal and Sagittal Plane Movement Challenges Differ Between People With and Without Low Back Pain. *J Electromyogr & Kinesiol*.

Nelson-Wong, E., Eigsti, H., Hammerich, A., Ellison, N. (2013). Influence of Presentation Handout Completeness on Student Learning in a Physical Therapy Curriculum. *Journal of Scholarship of Teaching and Learning*. 13(3):33-47.

Nelson-Wong, E., Alex, B., Csepe, D., Lancaster, D., & Callaghan, J.P., (2012). Muscle recruitment during return to stand from trunk flexion is altered in people who develop low back pain during prolonged standing. *Clinical Biomechanics*, *27*(10), 994-998.

Nelson-Wong E., Appell R., McKay M., Nawaz H., Roth J., Sigler R., Third J., & Walker M., (2012). Increased Fall Risk is Associated With Elevated Co-contraction About the Ankle During Static Balance Challenges in Older Adults. *Eur J Appl Physiol*, *112(4)*, 1379-1389.

Davis, A.M., Bridge, P., Miller, J., & **Nelson-Wong, E.**, (2011). Inter- and intra-rater reliability of the Active Hip Abduction Test. *J Othop Sports Phys Ther*, *41* (*12*), 953-960.

Gallagher, K., **Nelson-Wong, E.**, & Callaghan, J.P., (2011). Do asymptomatic low back pain developers demonstrate different postural control strategies than non-pain developers during unconstrained prolonged standing? *Gait Posture*, *34* (4), 490-495.

Pauk, J., Ezerskiy, V., **Nelson-Wong, E.**, Rogalski, M., (2010). Assessment of foot morphology in flat feet children. *Methods of Applied Sciences*, *6*, 131-140.

Nelson-Wong, E., Howarth, S.J., & Callaghan, J.P. (2010). Acute biomechanical responses to a prolonged standing exposure in a simulated occupational setting. *Ergonomics*, *53* (9), 1117-28.

Nelson-Wong, E. & Callaghan, J. P. (2010). Repeatability of Clinical, Biomechanical, and Motor Control Profiles in People with and without Standing-Induced Low Back Pain. *Rehabilitation Research and Practice*, Volume 2010, Article ID 289278, 9 pages.

Nelson-Wong, E. & Callaghan, J. P. (2010). Changes in Muscle Activation Patterns and Subjective Low Back Pain Ratings During Prolonged Standing in Response to an Exercise Intervention. *J Electromyogr Kinesiol, 20 (6),* 1125-33.

Nelson-Wong, E. & Callaghan, J. P. (2010). The Impact of a Sloped Surface on Low Back Pain During Prolonged Standing. *Appl Ergon, 41 (6),* 787-95.

Nelson-Wong, E. & Callaghan, J. P. (2010). 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, 20,* 256-263.

Nelson-Wong, E., Howarth, S. J., Winter, D. A., & Callaghan, J. P. (2009). Application of autocorrelation and cross-correlation analyses in human movement and rehabilitation research. *J Orthop Sports Phys Ther*, 39 (4), 287-295.

Nelson-Wong, E., Flynn, T. W., & Callaghan, J. P. (2009). Development of Active Hip Abduction as a Screening Test for Identifying Occupational Low Back Pain. *J Orthop Sports Phys Ther*, *39* (9), 649-657.

Nelson-Wong, E., Gregory, D. E., Winter, D. A., & Callaghan, J. P. (2008). Gluteus medius muscle activation patterns as a predictor of low back pain during standing. *Clin Biomech*, *23* (5), 545-553.

Brandenburg, S. L., Reusch, J. E., Felder, K. K., **Nelson-Wong, E.**, Lindenfeld, J., Manco-Johnson, M., Regensteiner, J.G., (2002). Impaired fibrinolysis in premenopausal women and age-matched men with Type 2 diabetes mellitus: a pilot study. *J Investig Med*, *50* (2), 110-115.

Scholarly Activities: Book Chapters

Callaghan, J.P. and **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.

Presentations

International

Nelson-Wong, E., Benz, A., Bridge, P., Craig, K., Miller, J., Stobie, WM., and 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).

Nelson-Wong, E. & Callaghan, J. P. *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).

Nelson-Wong, E. & Callaghan, J. P. *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 (Platform Presentation).

Nelson-Wong, E., Gregory, D. E., Winter, D. A., & Callaghan, J. P. *Gender Differences in Postural Control During Prolonged Standing*. North American Congress on Biomechanics, Ann Arbor, MI. August, 2008 (Poster Presentation).

Nelson-Wong, E., Miyasike-da-Silva, V., Tomescu, S., King, E., & Patla, A. E. *Path Selection Strategies During Walking Through Tall Obstacles*. Canadian Society for Biomechanics, Waterloo, ON, Canada, August, 2006 (Poster Presentation).

Nelson-Wong, E., Kenny-Scherber, C., & Patla, A. E. *Where do People Look When Walking in a Stepping Stone Environment?* Canadian Society for Biomechanics, Waterloo, ON, Canada, August, 2006 (Poster Presentation).

Miyasike-da-Silva, V., **Nelson-Wong, E.**, Tomescu, S., & Patla, A. E. *Young and Older Adults in a Simulated Forest: Path Selection Strategies.* International Computational Neuroscience Symposium, Montreal, QC, Canada, May, 2006 (Poster Presentation).

National

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 (Platform Presentation)

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 (Platform Symposium).

Eigsti, H., Hammerich, A., Ellison, N., and **Nelson-Wong, E.** *Effect of Learning Preferences and Lecture Handouts on Student Performance.* Teacher-Scholar Forum, Metropolitan State University, Denver, CO, February, 2013 (Platform Presentation).

Nelson-Wong, E., Eigsti, H., Hammerich, A., and 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 (Platform Presentation).

Gallant, P., Alexander, S., McClenahan, B., Dehmer, K., Ingvalson, S., Piatte, A., Poupore, K., Davis, A.M., **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 (Platform Presentation).

Poupore, K., Dehmer, K., Ingvalson, S., Piatte, A., Alexander, S., McClenahan, B., Gallant, P., Davis, A.M., **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).

Nelson-Wong, E., Eigsti, H., Hammerich, A., and 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 (Platform Presentation).

Csepe, D., Alex, B., Lancaster, D., Callaghan, J.P., & **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).

Stobie, W.M., Miller, J.A., Bridge, P.M., Craig, K.D., Benz, A.J., Davis, A.M., & **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).

Nelson-Wong, E., Alex, B., Csepe, D., Lancaster, D., & Callaghan, J.P. *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 (Platform Presentation).

Gallagher, K., **Nelson-Wong, E.,** & Callaghan, J.P. *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 for Best Poster Using Force Platform Data.

Appell, R.K., Nawaz, H., McKay, M., Roth, J., Sigler, R.L., Third, J.N., Walker, M.O., & **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 (Platform Presentation). *Marilyn Gossman Graduate Award Seminar.

Nelson-Wong, E., Howarth, S. J. , & Callaghan, J. P. *Acute Biomechanical Responses to a Prolonged Standing Exposure: Implications for Job Rotation Design.* American Society of Biomechanics, Providence, RI, August, 2010 (Poster Presentation).

Nelson-Wong, E. & Callaghan, J. P. *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 (Platform Presentation). *Marilyn Gossman Graduate Award Seminar.

Nelson-Wong, E., Flynn, T. W., & Callaghan, J. P. *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).

Nelson-Wong, E., Howarth, S. J., Winter, D. A., & Callaghan, J. P. *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).

Nelson-Wong, E. & Callaghan, J. P. *Is Muscle Co-Activation a Predisposing Factor for Low Back Pain Development During Standing?* American Society of Biomechanics, State College, PA, August, 2009 (Platform Presentation).

Nelson-Wong, E., Gregory, D. G., Winter, D. A., & Callaghan, J. P. *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 (Platform Presentation). *Marilyn Gossman Graduate Award Seminar.

Nelson-Wong, E., Gregory, D. G., Winter, D. A., & Callaghan, J. P. *Postural Control Strategies During Prolonged Standing: Is There a Relationship With Low Back Discomfort?* American Society of Biomechanics, Palo Alta, CA, August, 2007 (Platform Presentation).

Non-Refereed Presentations

International

Gallagher, K., **Nelson-Wong, E.,** & Callaghan, J.P. *Postural control and the development of transient low back pain.* Ontario Biomechanics Conference, Barrie, ON, Canada, March 2011 (Platform Presentation).

Nelson-Wong, E. & Callaghan, J. *Is Muscle Co-activation a Causal Factor for Low Back Pain Development During Standing?* Ontario Biomechanics Conference, Barrie, ON, Canada, March 2009 (Platform Presentation). *Finalist for Canadian Society for Biomechanics Doctoral Award.

Callaghan, J. P., Durkin, J., Gregory, D. G., & **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 (Platform Presentation).

Nelson-Wong, E., Gregory, D. G., Winter, D. A., & Callaghan, J. P. *Postural Control Strategies During Prolonged Standing: Is There a Relationship With Low Back Discomfort?* Ontario Biomechanics Conference, Barrie, ON, Canada, March 2007 (Platform Presentation).

Miyasike-da-Silva, V., **Nelson-Wong, E.**, Tomescu, S., & Patla, A. E. *Walking Through a Forest: Route Selection Strategies*. Ontario Biomechanics Conference, Barrie, ON, Canada, March 2006 (Platform Presentation).

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

Regional

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).

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).

Lancaster, D., Alex, B., Csepe, D., **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).

Invited Talks

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.

Nelson-Wong, E., Herzog, W., Yack, J., and Martin, P. *A Tribute to Dr. David Winter.* American Society of Biomechanics, Annual Meeting, Gainesville, FL., August, 2012 (Keynote Presentation).

Nelson-Wong, E. and Davis, A.M. *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.

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.

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

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-PI), May 1, 2012 – April 30, 2013, Regis University, Sponsored Projects Academic Research Council (SPARC) Faculty Research Grant.

Frontal Plane Control Response to Exercise in People with a History of Low Back Pain: A Pilot Study. (\$500) Bourgeois, G., DeGrandis, C., Hamilton, N., Kirven, I., Pieratt, K., Thornton, W. & Nelson-Wong, E. (Co-PI), Nov 1, 2012 – April 30, 2013, Regis University, Sponsored Projects Academic Research Council (SPARC) Student Research Grant.

Completed Grants

Does Combined Frontal and Sagittal Plane Assessment Improve Discrimination of People With Low Back Pain? (\$500) Gallant, P., & **Nelson-Wong, E.** (**Co-I**), Nov 1, 2012 – April 30, 2013, Regis University, Sponsored Projects Academic Research Council (SPARC) Student Travel Grant.

Muscle Activation During Frontal and Sagittal Plane Movements in Patients with Low Back Pain and

Matched Controls. (\$500) Poupore, K., & **Nelson-Wong, E. (Co-I)**, Nov 1, 2012 – April 30, 2013, Regis University, Sponsored Projects Academic Research Council (SPARC) Student Travel Grant.

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, A., & Nelson-Wong, E. (Co-PI), Oct 15 2011 – April 30, 2012, Regis University, Sponsored Projects Academic Research Council (SPARC) Student Research Grant.

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., (Co-I), Oct 15 2011 – April 30, 2012, Regis University, Sponsored Projects Academic Research Council (SPARC) Student Travel Grant.

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., (Co-I), Oct 15 2011 – April 30, 2012, Regis University, Sponsored Projects Academic Research Council (SPARC) Student Travel Grant.

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.

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.

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.

Biomechanical Differences Between Sub-groups of Patients with Low Back Pain: Linking Subclassification to Mechanism. (\$750) **Nelson-Wong, E., (PI)**, Feb 15, 2011 – April 30, 2011, Regis University, Sponsored Projects Academic Research Council (SPARC) Faculty Research Grant.

Inter- and intra-rater reliability of the Active Hip Abduction Test. (\$750) **Nelson-Wong, E.** & Davis, A.M., **(Co-PI)**, May 1, 2010 – April 30, 2012, Colorado Spine Therapy, LLC (Foundation).

Muscle Co-Contraction of the Ankle is Associated with Fall-Risk in Older Adults. (\$500) Appell, R.K., & **Nelson-Wong, E., (Co-I)**, Oct 15, 2010 – April 30, 2011, Regis University, Sponsored Projects Academic Research Council (SPARC) Student Travel Grants.

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., (Co-PI), Oct 15, 2010 – April 30, 2011, Regis University, Sponsored Projects Academic Research Council (SPARC) Student Research Grants.

Muscle Co-Contraction of the Ankle is Associated with Fall-Risk in Older Adults. (\$500) Appell, R.K., Nawaz, H., McKay, M., Roth, J., Sigler, R.L., Third, J.N., Walker, M.O., & **Nelson-Wong, E. (Co-PI)**, Oct 15, 2009 – April 30, 2010, Regis University, Sponsored Projects Academic Research Council (SPARC) Student Research Grants.

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.

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.

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.

Scholarly Professional Activities

Referee Positions

Identify editorial and/or peer reviewing roles. Identify date, role (editor, reviewer), and title of work. Include service on national grant review panels, study sections or committees.

International Grant Panels

Dec, 2012, Reviewer, Swiss National Science Foundation, Research Grant

Feb, 2012, Reviewer, Natural Science Engineering Research Council (NSERC) Canada, Canada Research Chair in Ergonomics

Jan, 2012, Reviewer, *Natural Science Engineering Research Council (NSERC) Canada, Discovery Grant* (2 Grants Reviewed)

Jan, 2010, Reviewer, Natural Science Engineering Research Council (NSERC) Canada, Discovery Grant

Abstract Review Committees

July, 2013, Reviewer, APTA Section on Research Abstract Review Committee (28 Abstracts)

July, 2012, Reviewer, APTA Section on Research Abstract Review Committee (17 Abstracts)

May, 2012, Reviewer, American Society of Biomechanics Annual Meeting (15 Abstracts)

July, 2011, Reviewer, APTA Section on Research Abstract Review Committee (23 Abstracts)

Mar, 2011, Reviewer, American Society of Biomechanics Annual Meeting (15 Abstracts)

Jun, 2010, Reviewer, APTA Section on Research Abstract Review Committee (21 Abstracts)

Apr, 2010, Reviewer, American Society of Biomechanics Annual Meeting (19 Abstracts)

<u>Manuscript Peer Review - Journals</u>

2013

Jan, 2013, Reviewer, Ergonomics

Jan, 2013, Reviewer, Journal of Electromyography & Kinesiology

Jan, 2013, Reviewer, Journal of Orthopaedic Sports Physical Therapy

Mar, 2013, Reviewer, Journal of Orthopaedic Sports Physical Therapy

Apr, 2013, Reviewer, Gait and Posture

May, 2013, Reviewer, Journal of Orthopaedic Sports Physical Therapy

June, 2013, Reviewer, Journal of Biomechanics

June, 2013, Reviewer, Journal of Rehabilitation Research and Development

July, 2013, June, 2013, Reviewer, F.A. Davis, Publisher

July, 2013, Reviewer, Journal of Electromyography & Kinesiology

2012

Dec, 2012, Reviewer, Applied Ergonomics

Nov, 2012, Reviewer, Journal of Orthopaedic Sports Physical Therapy

Nov, 2012, Reviewer, Muscle and Nerve

Oct, 2012, Reviewer, Journal of Electromyography & Kinesiology

Oct, 2012, Reviewer, Gait and Posture

Oct, 2012, Reviewer, Journal of Orthopaedic Sports Physical Therapy

Sep, 2012, Reviewer, *Muscle and Nerve*

Sep, 2012, Reviewer, Journal of Electromyography & Kinesiology

Sep, 2012, Reviewer, Ergonomics

Aug, 2012, Reviewer, Journal of Orthopaedic Sports Physical Therapy

Aug, 2012, Reviewer, Journal of Electromyography & Kinesiology

Aug, 2012, Reviewer, Applied Ergonomics

July, 2012, Reviewer, Gait and Posture

July, 2012, Reviewer, Journal of Electromyography & Kinesiology (2 manuscripts)

July, 2012, Reviewer, Journal of Orthopaedic Sports Physical Therapy

Jun, 2012, Reviewer, Geriatrics & Gerontology International

Jun, 2012, Reviewer, Journal of Orthopaedic Sports Physical Therapy

May, 2012, Reviewer, Journal of Electromyography & Kinesiology (2 manuscripts)

Apr, 2012, Reviewer, Gait and Posture

Apr, 2012, Reviewer, Journal of Electromyography & Kinesiology

Mar, 2012, Reviewer, Journal of Electromyography & Kinesiology

Feb, 2012, Reviewer, Gait and Posture

Feb, 2012, Reviewer, Journal of Electromyography & Kinesiology (2 manuscripts)

Feb, 2012, Reviewer, Journal of Orthopaedic Sports Physical Therapy

<u> 2011</u>

Oct, 2011, Reviewer, Journal of Electromyography & Kinesiology

Sep, 2011, Reviewer, Journal of Orthopaedic Sports Physical Therapy

Sep, 2011, Reviewer, Journal of Electromyography & Kinesiology

Aug, 2011, Reviewer, Journal of Orthopaedic Sports Physical Therapy

July, 2011, Reviewer, Jones & Bartlett Textbook

Jun, 2011, Reviewer, Journal of Electromyography & Kinesiology

May, 2011, Reviewer, Journal of Orthopaedic Sports Physical Therapy

Apr, 2011, Reviewer, Journal of Orthopaedic Sports Physical Therapy

Apr, 2011, Reviewer, Journal of Electromyography & Kinesiology

Feb, 2011, Reviewer, Journal of Electromyography & Kinesiology

<u> 2010</u>

Dec, 2010, Reviewer, Journal of Orthopaedic Sports Physical Therapy

Nov, 2010, Reviewer, Journal of Orthopaedic Sports Physical Therapy

Aug, 2010, Reviewer, Journal of Orthopaedic Sports Physical Therapy

Jun, 2010, Reviewer, Journal of Orthopaedic Sports Physical Therapy

Feb, 2010, Reviewer, Physiotherapy Theory & Practice

Jan, 2010, Reviewer, Journal of Orthopaedic Sports Physical Therapy

2009

Dec, 2009, Reviewer, Journal of Orthopaedic Sports Physical Therapy

Aug, 2009, Co-Reviewer (Mentored by Dr. Jack Callaghan), Spine

Jun, 2009, Co-Reviewer (Mentored by Dr. Jack Callaghan), *Journal of Rehabilitation Research & Development*

Feb, 2009, Co-Reviewer (Mentored by Dr. Jack Callaghan), Journal of Applied Biomechanics

2008

Dec, 2008, Co-Reviewer (Mentored by Dr. Jack Callaghan), Medical Science Monitor

<u> 2007</u>

Jun, 2007, Co-Reviewer (Mentored by Dr. Jack Callaghan), *Archives of Physical Medicine & Rehabilitation*

<u>Professional, Scientific, Honorary Associations or Societies</u> <u>Membership</u>

American Physical Therapy Association (APTA), Member 1995 – present

Section on Research, Member 2005 - present

Orthopaedic Section, Member 2007 – present

Education Section, Member 2005 - present

Home Health Section, Member 2000 - 2005

Geriatric Section, Member 2000 - 2005

American Society of Biomechanics (ASB), Member 2009 – present

Canadian Society for Biomechanics, Member 2005 – present

International Society of Biomechanics, Member 2005 – present

American Academy of Orthopaedic and Manual Physical Therapy, Member 2007 - present

Positions, Committees, Task Forces

National

ASB, Chair, Low Back Pain Platform Presentations, 2013

APTA, Section on Research, Biomechanics Special Interest Group, Awards Committee, Member, 2013 - 2014

APTA, Section on Research (SOR), Abstract Review Committee, Member, 2009-2013

ASB, Membership Committee, Member, 2010-2012

ASB, Abstract Review, Member, 2010-2012

ASB, Student Awards Review, Member, 2012

ASB, Student Mentoring Program, Member, 2010-2013

APTA, SOR, Chair SOR Platform Presentations, 2010

APTA, SOR, Biomechanics Special Interest Group, Member, 2009-present

International

Canadian Society for Biomechanics, Co-Chair Motor Control Session, 2010

Service

Service to the College/University

University

Institutional Review Board, Member, 2013-2016

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

Developed educational materials for injury prevention/body mechanics for Regis University Physical Plant employees (with Dr. Ira Gorman and Dr. Alice Davis), 2012

College

RHCHP Wellness Committee, Member, 2011-2013

Staff Wellness Day - presented educational session on ergonomics, July 27, 2010

School

Health and Exercise Science Team, Member, 2009-present

Awards Committee, Chair, 2012 - present

Social Networking Task Force, Chair, 2012 - present

Class Advisor - DPT Class of 2013, 2010 - present

DPT Team, Member, 2009-2012

Rubric Task Force, Member, 2011-2012

Learning Technologies Clicker Task Force, Member, 2011-2012

Organized guest speakers for brown bag research talks - June 1, 2011 (Dr. Stacey Meardon)

and June 29, 2011 (Dr. Alena Grabowski)

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

Alumni Committee – 2010-2011

Blogger for the Regis Alumni Website - 2010-2011

Service to the Community

Community

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

<u>National Sports Center for the Disabled</u>, Denver, CO – volunteered with the blind climbers program, took a group of children from the Colorado School for the Blind rock climbing and hiking, June, 2013.

<u>US Forest Service/Bureau of Land Management</u>, Penitente Canyon, La Garita, CO replaced fixed hardware (bolts and anchors) for climber safety, trail building, landscaping for erosion control and safe public access, May 16-18, 2013

<u>Front Range Pika Project</u>, 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-present

<u>9HealthFair</u>, Golden, CO - supervised 1st year DPT students in cardiovascular risk assessments, Oct 27, 2012

<u>Adopt-a-Crag Trail Day</u>, North Table Mountain, Golden, CO - performed trail building for erosion prevention and to improve public access, Sep 15, 2012

<u>US Forest Service/Bureau of Land Management</u>, Penitente Canyon, La Garita, CO – replaced fixed hardware (bolts and anchors) for climber safety, trail building, landscaping for erosion control and safe public access, May 11-13, 2012

<u>Provision of pro bono physical therapy services</u> to individuals in financial need, average 3 patients per year, 2009-present

<u>HERA Climb4Life</u>, 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 (20 hours), June 24-26, 2011

 $\underline{Adopt\text{-}a\text{-}Crag\ Trail\ Day}, El\ Dorado\ Canyon\ State\ Park,\ Boulder,\ CO\ -\ performed\ trail\ building\ for\ erosion\ prevention\ and\ to\ improve\ public\ access,\ Oct\ 1,\ 2011$

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

9HealthFair, Denver, CO - performed Body in Balance assessments, April 24, 2010

<u>Flagstaff Mountain Trash Bash</u>, Boulder, CO – trash clean-up to improve community relationships between user groups at Flagstaff Mountain, Sep 8, 2010

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

<u>Multiple Sclerosis Aquatics Program Volunteer</u>, 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)

Teaching Responsibilities

Fall 2012

Biomechanics and Kinesiology – Extremities, DPT 703, Course Coordinator Critical Inquiry, DPT 776, Instructor Perspectives in Persistent Pain Elective, DPT 7800, 50% Role, Team Teach 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 Student Research Advisor

Spring 2012

Kinesiology I, DPT 705, Course Coordinator Biomechanics of Exercise, EXS 424, Course Coordinator Musculoskeletal Management 3, 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 7800, 50% Role Team Teach 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) Student Research Advisor

Spring 2011

Movement Science, DPT 706, Lab Assistant Kinesiology I, DPT 705, Instructor and Lab Assistant Musculoskeletal Management 3, 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 3, 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 3, DPT 735 Instructor and Lab Assistant Evidence Based Practice 4, DPT 793, Instructor Evidence Based Practice 2, 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 3, DPT 792, Instructor Student Research Advisor

Summer 2009

Student Research Advisor

Professional Development

Discerning Ethics Excellence Panel Discussion, Academic Grants Office, Regis University, Denver, CO, November 29, 2012.

Public Speaking Workshop, Center for Excellence in Teaching and Learning, Regis University, Denver CO, November 7, 2012.

ASB Fellows Symposium, Annual Meeting of the American Society of Biomechanics, Gainesville, FL, August, 2012.

Aging and Gait Symposium, Annual Meeting of the American Society of Biomechanics, Gainesville, FL, August, 2012.

Personal Learning Technology Development, Learning Technologies, Regis University, Denver, CO, April 10, 2012.

Young Investigators Initiative Grant Writing Workshop, Bone and Joint Decade, Rosemont, IL, November 10-12, 2011.

Promoting Better Teaching, Fall Faculty Conference, Regis University, Denver, CO, October 7, 2011.

Transgressing Teaching, Fall Faculty Conference, Regis University, Denver, CO, October 7, 2011.

Teaching in Biomechanics Symposium, Annual Meeting of the American Society of Biomechanics, Long Beach, CA, August, 2011.

Engaging Your Learners, Learning Technologies, Regis University, Denver, CO, May 26, 2011.

Beginning Adobe Presenter, Learning Technologies, Regis University, Denver, CO, April 20, 2011.

Faculty Development Workshop for New Faculty, Education Section of the APTA, Chicago, IL, June 3-6, 2010.

Young Investigators Initiative Grant Writing Workshop, Bone and Joint Decade, Rosemont, IL, April 16-18, 2010.

Teaching in an E-Learning Age: Using Web-based Blended Learning and 3D Virtual Environments to Facilitate Student Learning, Parts 1 and 2, Combined Sections Meeting of the APTA, San Diego, CA, February 2010.

Funded Research and Early Career Development Opportunities for Faculty Members, Combined Sections Meeting of the APTA, San Diego, CA, February 2010.

Concussion and Mild Traumatic Brain Injury: Update 2010, Combined Sections Meeting of the APTA, San Diego, CA, February 2010.

How to Design and Conduct RCTs: Real-World Considerations, Combined Sections Meeting of the APTA, San Diego, CA, February 2010.

Eugene Michels Research Forum: Neuroimaging - The Story Behind the Blob, Combined Sections Meeting of the APTA, San Diego, CA, February 2010.

Best Practices for Designing Power Points, Learning Technologies, Regis University, Denver, CO, November 3, 2009.

Protecting Human Research Participants, National Institutes of Health Office of Extramural Research, August 25, 2009.

Psychological Influence on Musculoskeletal Pain: A Clinical Update for the Practicing Manual Therapist, AAOMPT Annual Meeting, Seattle, WA, October 30, 2008.

So the Student Asked About Odds Ratios (Again): Interpretation and Application of Evidence Based Practice for the Practicing Clinician, AAOMPT Annual Meeting, Seattle, WA, October 29, 2008.

Concentrated Education Series in Manual Therapy, APTA Annual Meeting, Denver, CO, June 27-30, 2007.

Spring Orthopedic Day, Panorama Orthopaedic Surgeons Group, April 1, 2005.

Professionalism Across the Generations, Education and Health Policy and Administration Sections of the APTA, New Orleans, LA, February 23, 2005.

Coding and Billing for Therapy and Rehab, Cross Country University, Davenport, IA, April 15, 2003.

Geriatric Gait: Clinical Analysis and Interventions, North American Seminars, Denver CO, October 9-10, 1998.

Cancer Exercise Specialist Workshop, Rocky Mountain Cancer Rehabilitation Institute, Greeley, CO, July 30-August 4, 2000.

An Eclectic Approach to Evaluation and Treatment of the Shoulder Girdle, Manual Therapy Seminars of Colorado, September 19-20,1998.

MET of the Thoracic Spine and Ribs, Manual Therapy Seminars of Colorado, February 14-15, 1998.

Strain and Counterstrain I, Jones Institute, Broomfield, CO, August 23-24, 1997. Biomechanics of Pathological Motion: Implications for Ortho/Neuro Intervention, Colorado Chapter of the APTA, November 23-24, 1996.

MET – Lumbar, Pelvis and Sacrum, Manual Therapy Seminars of Colorado, October 26-27, 1996.

Ankle and Foot, Assessment and Treatment: Focus on Manual Therapy, North American Institute of Orthopaedic Manual Therapy, October 19, 1996.