

## **CURRICULUM VITAE**

### **Alessander Danna-dos-Santos, PT PhD**

3454 CHHS Building  
1903 W. Michigan Ave  
Doctor of Physical Therapy Program  
Western Michigan University  
Kalamazoo, MI 49008  
(269) 387-7202 (office)  
alessander.santos@wmich.edu

### **Education:**

Post-doctoral scholar in Kinesiology  
Arizona State University  
Tempe, AZ  
2008-2010

Doctorate (Ph.D.): Kinesiology – Motor Control  
Pennsylvania State University  
University Park, PA  
Awarded: 2008

Master of Science: Motricity Science - Human Motricity  
Paulista State University of Sao Paulo (UNESP/RC)  
Rio Claro, Brazil  
Awarded: 2001

Doctor in Physiotherapy  
State University of Londrina (UEL)  
Londrina, Brazil  
Awarded: 1998

### **Licensure Information:**

Physical Therapist - Brazil: #266811 (current)  
Physical Therapist - Michigan: #5501018984 (current)  
Physical Therapist - Montana: #13033 (expired in 2019)

### **Certifications:**

Residence in trauma and orthopedic rehabilitation  
University of Sao Paulo/Medicine School (FMRP/USP)  
Ribeirao Preto, Brazil  
1998 - 1999

**Employment and Positions Held:** from most recent to earliest

Academic:

Faculty member WMU DPT Program  
Associate Professor  
Tenure-track  
Western Michigan University  
Kalamazoo, MI  
August 2018 – present

Director of Laboratory for Advances in Rehabilitation Science (LARS)  
Western Michigan University  
Kalamazoo, MI  
September 2020 – present

Faculty member UMPT DPT Program  
Assistant Professor (2010-2015); Associate Professor (2016 – 2018)  
Tenured in 2015  
University of Montana  
Missoula, MT  
August 2011 – August 2018

Director of Motor Control Laboratory  
University of Montana  
Missoula, MT  
January 2014 – August 2018

Director of Human Anatomy Laboratory  
University of Montana  
Missoula, MT  
August 2011 – August 2018

General coordinator of Physical Therapy School  
Catholic University of Santos  
Santos, Brazil  
January 2003- August 2004

Director of rehabilitation clinical facility  
School of Physiotherapy  
Catholic University of Santos  
Santos, Brazil  
January 2001- August 2004

Faculty member  
Professor (tenured, 2003)  
Catholic University of Santos  
Santos, Brazil  
January 2001- August 2004

**Clinical:**

Physical Therapist –  
Synergy Applied Rehabilitation  
Kalamazoo, MI  
September 2020 - current

Physical Therapist – evaluation of mTBI survivors  
Neural Injury Center  
University of Montana  
Missoula, MT  
August 2017- August 2018

Physical Therapist – general out-patient rehabilitation (summer months)  
Londrina, Brazil  
January 2014- August 2018

Physical Therapist – general out-patient rehabilitation (summer months)  
Catholic University of Santos  
Santos, Brazil  
January 2001- July 2004

Physical Therapist – in-patient and out-patient  
Resident trainee in trauma, orthopedic, hand trauma and burned patients  
University of Sao Paulo/ Medicine School of Ribeirao Preto (FMRP/USP)  
Ribeirao Preto, Brazil  
February 1998 – February 1999

Trainee in Physical Rehabilitation  
State University of Londrina (UEL)  
1998

Trainee in Physical Rehabilitation  
Traumas and orthopedic insults in high-performance professional athletes, and children 3-7  
years of age.  
MegaFisio/Proforma clinic  
Londrina, Brazil  
January 1996 – January 1998

**Peer Reviewed Publications:**

Degani, A. M., Leonard, C. T., & Danna-Dos-Santos, A. (2020). The effects of aging on the distribution and strength of correlated neural inputs to postural muscles during unperturbed bipedal stance. *Experimental brain research*, 238(6), 1537–1553.  
<https://doi.org/10.1007/s00221-020-05837-4>.

Degani, A. M., Cardoso, V. S., Magalhães, A. T., Assunção, A., Soares, E. C., & Danna-Dos-Santos, A. (2020). Postural Behavior in Medicated Parkinson Disease Patients: A

- Preliminary Study Searching for Indicators to Track Progress. *Journal of central nervous system disease*, 12, 1179573520922645. <https://doi.org/10.1177/1179573520922645>.
- Danna-dos-Santos, A. (2019) Short-term memory retrieval and cognitive fatigue in mild traumatic brain injuries. *Archives of physical medicine and rehabilitation* 101(1), supp 1-98.
- Danna-Dos-Santos, A., Magalhaes, A., A. Silva, B., S. Duarte, B., L. Barros, G., De Fátima C. Silva, M., ... Cardoso, V. (2018). Upright Balance Control Strategies During Pregnancy. *Gait & Posture*, 66. <https://doi.org/10.1016/j.gaitpost.2018.08.004>
- Danna-Dos-Santos, A., Mohapatra, S., Santos, M., & M. Degani, A. (2018a). Author Correction: Long-term effects of mild traumatic brain injuries to oculomotor tracking performances and reaction times to simple environmental stimuli. *Scientific Reports/Nature*, 8. <https://doi.org/10.1038/s41598-018-25220-2>
- Danna-Dos-Santos, A., Mohapatra, S., Santos, M., & M. Degani, A. (2018b). Long-term effects of mild traumatic brain injuries to oculomotor tracking performances and reaction times to simple environmental stimuli. *Scientific Reports/Nature*, 8. <https://doi.org/10.1038/s41598-018-22825-5>
- Lee, H., Lee, S., Muthukumar, V., Lee, S.-P., Salado, L., Estrada, J., Danna-dos-Santos, A., Mohapatra, S. (2018C). Estimation of body balance in traumatic brain injury. 2018 Biomedical and Health Informatics (jointly with) Body Sensor Networks (BHI & BSN 2018), Las Vegas, NV.
- Degani, A. M., Leonard, C. T., & Danna-dos-Santos, A. (2017a). The effects of early stages of aging on postural sway: A multiple domain balance assessment using a force platform. *Journal of Biomechanics*, 64, 8–15. <https://doi.org/10.1016/j.jbiomech.2017.08.029>
- Degani, A. M., Leonard, C. T., & Danna-dos-Santos, A. (2017b). The use of intermuscular coherence analysis as a novel approach to detect age-related changes on postural muscle synergy. *Neuroscience Letters*, 656, 108–113. <https://doi.org/10.1016/j.neulet.2017.07.032>
- Degani, A. M., Santos, M. M., Leonard, C. T., Rau, T. F., Patel, S. A., Mohapatra, S., & Danna-dos-Santos, A. (2017). The effects of mild traumatic brain injury on postural control. *Brain Injury*, 31(1), 49–56. <https://doi.org/10.1080/02699052.2016.1225982>
- Santos, M. (2017). Changes in postural sway behavior across the life span. *Graduate Student Theses, Dissertations, & Professional Papers*. Retrieved from <https://scholarworks.umt.edu/etd/10920>
- Boonstra, T. W., Danna-Dos-Santos, A., Xie, H.-B., Roerdink, M., Stins, J. F., & Breakspear, M. (2015). Muscle networks: Connectivity analysis of EMG activity during postural control. *Scientific Reports/Nature*, 5, 17830. <https://doi.org/10.1038/srep17830>

- Danna-Dos-Santos, A., Degani, A. M., Boonstra, T. W., Mochizuki, L., Harney, A. M., Schmeckpeper, M. M., ... Leonard, C. T. (2015). The influence of visual information on multi-muscle control during quiet stance: a spectral analysis approach. *Experimental Brain Research*, 233(2), 657–669. <https://doi.org/10.1007/s00221-014-4145-0>
- Leonard, C. T., Danna-dos-Santos, A., Peters, C., & Moore, M. (2015). Corticomotor excitability changes during mirrored or asynergistic wrist movements. *Behavioural Brain Research*, 281, 199–207. <https://doi.org/10.1016/j.bbr.2014.12.026>
- Danna dos Santos, A. (2014). Multi-muscle control of postural muscles-manifolds and frequencies. *Journal of Computer Science & Systems Biology*, s1(01). <https://doi.org/10.4172/0974-7230.S1.006>
- Danna-Dos-Santos, A. (2014). PT 510.01: Applied Clinical Anatomy. *Syllabi*, 2168, 59.
- Mariano Barboza, N. (2014). The Effect of An Exercise-Based Intervention to the Quality of Life of Patients Suffering From Parkinson's Disease: Prospective Study. *Journal of Yoga & Physical Therapy*, 04(04). <https://doi.org/10.4172/2157-7595.1000170>
- Danna-Dos-Santos, A., Boonstra, T. W., Degani, A. M., Cardoso, V. S., Magalhaes, A. T., Mochizuki, L., & Leonard, C. T. (2014). Multi-muscle control during bipedal stance: an EMG–EMG analysis approach. *Experimental Brain Research*, 232(1), 75–87. <https://doi.org/10.1007/s00221-013-3721-z>
- Danna-Dos Santos, A., Poston, B., Jesunathadas, M., Bobich, L. R., Hamm, T. M., & Santello, M. (2010). Influence of Fatigue on Hand Muscle Coordination and EMG-EMG Coherence During Three-Digit Grasping. *Journal of Neurophysiology*, 104(6), 3576–3587. <https://doi.org/10.1152/jn.00583.2010>
- Degani, A. M., Danna-Dos-Santos, A., Robert, T., & Latash, M. L. (2010). Kinematic synergies during saccades involving whole-body rotation: A study based on the uncontrolled manifold hypothesis. *Human Movement Science*, 29(2), 243–258. <https://doi.org/10.1016/j.humov.2010.02.003>
- Klous, M., Danna-dos-Santos, A., & Latash, M. L. (2010). Multi-muscle synergies in a dual postural task: evidence for the principle of superposition. *Experimental Brain Research*, 202(2), 457–471. <https://doi.org/10.1007/s00221-009-2153-2>
- Poston, B., Danna-Dos Santos, A., Jesunathadas, M., Hamm, T. M., & Santello, M. (2010). Force-Independent Distribution of Correlated Neural Inputs to Hand Muscles During Three-Digit Grasping. *Journal of Neurophysiology*, 104(2), 1141–1154. <https://doi.org/10.1152/jn.00185.2010>
- Danna-Dos-Santos, A., Shapkova, E. Y., Shapkova, A. L., Degani, A. M., & Latash, M. L. (2009). Postural control during upper body locomotor-like movements: similar synergies based on dissimilar muscle modes. *Experimental Brain Research*, 193(4), 565–579. <https://doi.org/10.1007/s00221-008-1659-3>

- Danna-dos-Santos, A., Degani, A. M., & Latash, M. L. (2008). Flexible muscle modes and synergies in challenging whole-body tasks. *Experimental Brain Research*, 189(2), 171. <https://doi.org/10.1007/s00221-008-1413-x>
- Danna-Dos-Santos, A., Degani, A. M., Zatsiorsky, V. M., & Latash, M. L. (2008). Is Voluntary Control of Natural Postural Sway Possible? *Journal of Motor Behavior*, 40(3), 179–185. <https://doi.org/10.3200/JMBR.40.3.179-185>
- Danna-Dos-Santos, A. (2008). *Multi-muscle coordination in postural tasks*. Retrieved from <https://etda.libraries.psu.edu/catalog/8723>
- Danna-Dos-Santos, A., Degani, A. M., & Latash, M. L. (2007). Anticipatory control of head posture. *Clinical Neurophysiology*, 118(8), 1802–1814. <https://doi.org/10.1016/j.clinph.2007.05.060>
- Danna-dos-Santos, A., Slomka, K., Zatsiorsky, V. M., & Latash, M. L. (2007). Muscle modes and synergies during voluntary body sway. *Experimental Brain Research*, 179(4), 533–550. <https://doi.org/10.1007/s00221-006-0812-0>
- Degani, A. M., Danna-Dos-Santos, A., & Latash, M. L. (2007). Postural Preparation to Making a Step: Is There a “Motor Program” for Postural Preparation? *Journal of Applied Biomechanics*, 23(4), 261–274. <https://doi.org/10.1123/jab.23.4.261>
- Degani, Adriana, & Danna-dos-Santos, A. (2007). The Effect of Water Walking on the Lower Limb Motion of Older Adults. *International Journal of Aquatic Research and Education*, 1(3). <https://doi.org/10.25035/ijare.01.03.03>
- Degani, A., & Danna-dos-Santos, A. (2006). Spatio-temporal parameters and interlimb coordination for older adults when walking in shallow water. *Journal of Aquatic Physical Therapy*, 14(1), 2.
- Bomfim, T. R., Danna dos Santos, A., & Barela, J. (2002). Oscilação corporal e comportamento funcional da articulação subtalar em indivíduos com entorse recidivante de tornozelo. *Braz J Phys Ther*, 6(1), 17–23.
- Danna dos Santos, A., & Barela, J. A. (2002). Alterações do andar em portadores de diabetes mellitus, neuropatia diabética periférica e amputação transmetatarsiana. *Rev. Bras. Biomec*, 3(5), 21–29.
- Ishii, E. Y., Danna dos Santos, A., Igarashi, G., Matsumura, E. M., Camargo, L. S., Brochado, V. H., ... Miyazaki, J. (1995). A questão da alimentação na comunidade, um estudo através da metodologia da problematização. *Semina*, 16(ed. esp), 22–5.

**Peer-Reviewed Scientific and Professional Presentations Published (National and International only):**

- Danna-dos-Santos, A., Degani, A. M. (2021). *Subjective visual perception and visuo-postural dependency index through the lifespan*. Accepted poster to be presented at APTA Annual Combined Sessions Virtual Meeting.

- Danna-dos-Santos, A., Degani, A. M. (2021). *mTBI patients progress with larger reliance on visual inputs for postural control*. Accepted poster to be presented at APTA Annual Combined Sessions Virtual Meeting.
- Degani, A. M., Cardoso V.S., Magalhaes, A.T., Danna-dos-Santos, A. (2021). *Non-immediate effects of abdominal mass increase to postural control: a parallel study to pregnancy-related falls*. Accepted poster to be presented at APTA Annual Combined Sessions Virtual Meeting.
- Danna-dos-Santos, A.; Degani AM (2020, October). *Subjective visual vertical and subjective visual horizontal indices and their modulation in magnitude across the adult lifespan*. Poster presented at the 97th American Congress of Rehabilitation Medicine. Virtual meeting.
- Danna-dos-Santos, A. Degani AM (2020). Long-Term Effects of Mild Traumatic Brain Injury (mTBI) to Working Memory and Immediate Recall Abilities. Presented at APTA Combined Sessions Meeting, Denver, CO.
- Danna-dos-Santos, A. (2019) Short-term memory retrieval and cognitive fatigue in mild traumatic brain injuries. Presented at 96th American Congress of Rehabilitation Medicine, Chicago, IL.
- Danna-dos-Santos, A., Magalhaes, A. T., Silva, B., Duarte, B., Barros, G., Silva, M., ... Cardoso, V. S. (2019). Balance control strategies during pregnancy. Presented at APTA Combined Sessions Meeting, Washington, DC.
- Danna-dos-Santos, A., Santos, M. M., Mohapatra, S., Cardoso, V. S., Magalhaes, A. T., & Degani, A. M. (2019). Long term effects of mild traumatic brain injury (mTBI) to oculomotor skills and reaction time to simple environmental stimuli. Presented at APTA Combined Sessions Meeting, Washington, DC.
- Degani, A. M., Cardoso, V. S., Magalhaes, A. T., Assuncao, A., Soares, E., & Danna-dos-Santos, A. (2019). The use of body sway indices as markers for postural instability in medicated individuals with Parkinson's disease. Presented at APTA Combined Sessions Meeting, Washington, DC.
- Danna-dos-Santos, A. (2018). Translational Research in Mild Traumatic Brain injury: An Interdisciplinary Approach. Presented at the 50th Winter Conference on Brain research, Big Sky, MT.
- Danna-dos-Santos, A., Degani, A. M., & Mohapatra, S. (2018). Rapid screening of TBI in student athletes and veterans of rural mountain west. Presented at the 5th Annual Meeting Mountain West Clinical Translational Research Infrastructure Network, Las Vegas, NV.
- Ganesan, M., Mohapatra, S., & Danna-dos-Santos, A. (2018). Quantification of balance impairment and intervention strategies in individuals with neurological disorders. Presented at the 95th Annual Conference of American College of Rehabilitation Medicine, Dallas, TX. Retrieved from <https://eventscribe.com/2018/acrm/ajaxcalls/PresentationInfo.asp?efp=VUVYT1BQTkg0MDk4&PresentationID=401886&rnd=0.2895625>

- Danna-dos-Santos, A., Rau, T., Degani, A. M., Mohapatra, S., Santos, M. M., Hicks, K., ... Leonard, C. T. (2016). The development of a multi-dimensional system of oculomotor evaluation for mild traumatic brain injury. Presented at the 3rd Annual Meeting Mountain West Clinical Translational Research Infrastructure Network (CTRIN), Las Vegas, NV.
- Degani, A. M., Rau, T., Mohapatra, S., Santos, M. M., Patel, S., Leonard, C. T., & Danna-dos-Santos, A. (2016). Mild traumatic brain injury and its effects to human vertical postural control. Presented at the 3rd Annual Meeting Mountain West Clinical Translational Research Infrastructure Network (CTRIN), Las Vegas, NV.
- Degani, A. M., Santos, M. M., Leonard, C. T., & Danna-dos-Santos, A. (2016). Long-term effects of mild traumatic brain injury to human balance control. Presented at the APTA Combined Sections Meeting, Anaheim, CA.
- Mohapatra, S., Santos, M. M., Degani, A. M., Danna-dos-Santos, A., Rau, T., Patel, S., & Leonard, C. T. (2016). Characteristics of saccades in mild traumatic brain injury. Presented at the 3rd Annual Meeting Mountain West Clinical Translational Research Infrastructure Network (CTRIN), Las Vegas, NV.
- Rau, T., Patel, S., Danna-dos-Santos, A., Degani, A. M., & Mohapatra, S. (2016). Mild traumatic brain injury and cognitive fatigue. Presented at the 3rd Annual Meeting Mountain West Clinical Translational Research Infrastructure Network (CTRIN), Las Vegas, NV.
- Barboza, N., Almeida, I., Lemes, L., Batistetti, C., Santos, H., Santos, S. M., ... Danna-dos-Santos, A. (2015). The effects of an exercise-based intervention to the quality of life of patients suffering from Parkinson's Disease: Prospective Study. Presented at the APTA Combined Sections Meeting, Indianapolis, IN.
- Danna-dos-Santos, A., Degani, A. M., & Leonard, C. T. (2015). A multi-factorial system for the detection of mTBI long-term balance deficits. Presented at the 9th World Congress International Brain Research Organization IBRO 2015, Rio de Janeiro, Brazil.
- Danna-dos-Santos, A., Martin, A., Degani, A. M., Leonard, C. T., & Santos, M. M. (2015). Effects of a balance-oriented yoga program to human postural control. Presented at the APTA Combined Sections Meeting, Anaheim, CA.
- Degani, A. M., Leonard, C. T., & Danna-dos-Santos, A. (2015a). Postural multi-muscle synergies: the influence of vision to the distribution of common neural inputs. Presented at the Winter Conference on Brain Research, Big Sky, MT.
- Degani, A. M., Leonard, C. T., & Danna-dos-Santos, A. (2015b). Visual influences on intermuscular coherence during the control of postural sway. Presented at the APTA Combined Sections Meeting, Indianapolis, IN.
- Gorniak, S. L., Danna-dos-Santos, A., & Mohapatra, S. (2015). Translational insights into the functional integrity of the central nervous system. Presented at the Winter Conference on Brain Research, Big Sky, MT.



- Rau, T., Patel, S., Leonard, C. T., & Danna-dos-Santos, A. (2015). Mild traumatic brain injury: cognitive fatigue and methods for its assessment. Presented at the 9th World Congress International Brain Research Organization IBRO 2015, Rio de Janeiro, Brazil.
- Danna-dos-Santos, A. (2014). Multi-muscle control of postural muscles – Manifolds and Frequencies (Vol. 7, p. 5). Presented at the 2nd International Summit on Integrative Biology, Chicago, IL. <https://doi.org/10.4172/0974-7230.S1.006>
- Danna-dos-Santos, A., Leonard, C. T., Degani, A. M., Tabor, L., Schmeckpeper, M., & Harney, A. (2014). Common neural inputs to postural muscles during quiet stance. Presented at the APTA Combined Sessions Meeting, Las Vegas, NV.
- David, M., & Danna-dos-Santos, A. (2014). Disability levels in cerebral vascular accident (CVA) survivors: the ICF model in action. Presented at the University of Montana undergraduate science fair and exhibit, Missoula, MT.
- Degani, A. M., Bundle, M., Danna-dos-Santos, A., & Leonard, C. T. (2014). Is postural behavior in quiet standing a random process? Presented at the University of Montana Graduate Fair and Exhibit, Missoula, MT.
- Degani, A. M., Danna-dos-Santos, A., & Leonard, C. T. (2014). The influence of visual inputs to the distribution of common neural inputs in humans. Presented at the University of Montana Graduate Fair and Exhibit.
- Degani, A. M., Leonard, C. T., Boonstra, T. W., & Danna-dos-Santos, A. (2014). Visual afferent inputs and their role to the distribution of common neural inputs to postural muscles. Presented at the Annual Meeting Society for Neuroscience, Washington, DC.
- Danna-dos-Santos, A., Leonard, C. T., Degani, A. M., Magalhaes, A. T., & Cardoso, V. S. (2013). Multi-muscle control of postural muscles: common neural inputs. Presented at the Annual Meeting Society for Neuroscience, San Diego, CA.
- Mizner, R., & Danna-dos-Santos, A. (2013). Acute Training Changes in Jump Landing Performance in Patients with ACL Reconstruction. Presented at the APTA Combined Sessions Meeting, San Diego, CA.
- Danna-dos-Santos, A., Poston, B., Bobich, L., & Santello, M. (2009). Effect of force direction on the modulation of EMG amplitudes of handle hand muscles during the execution of three-digit grasping and single digit force production. Presented at the Annual Meeting Society for Neuroscience, Chicago, IL.
- Klous, M., Danna-dos-Santos, A., & Latash, M. L. (2009a). Multi-muscle synergies in Dual a Task. Presented at the 33rd annual meeting of the American Society of Biomechanics, State College, PA.
- Klous, M., Danna-dos-Santos, A., & Latash, M. L. (2009b). Organization of multi-muscle synergies in a dual task involving voluntary body sway. Presented at the Progress in Motor Control, Marseille, France.

- Poston, B., Danna-dos-Santos, A., Bobich, L., & Santello, M. (2009). The influence of fatigue on hand muscle coordination and EMG-EMG coherence during three-digit grasping. Presented at the Annual Meeting Society for Neuroscience, Chicago, IL.
- Danna-dos-Santos, A., Degani, A. M., & Latash, M. L. (2007). Anticipatory postural adjustments in head control (Vol. 11, p. Supplement S19). Presented at the Progress in Motor Control VI, Santos, Brazil: Motor Control.
- Danna-dos-Santos, A., Slomka, K., & Zatsiorsky, V. M. (2007). Organization of muscle modes and synergies during voluntary body sway (Vol. Supplement S143). Presented at the Progress in Motor Control VI, Santos, Brazil: Motor Control.
- Latash, M. L., Danna-dos-Santos, A., & Zatsiorsky, V. M. (2007). Uncontrolled manifold analysis in studies of human posture. Presented at the 1st Meeting of the North East American Society of Biomechanics (NEASB), Baltimore, MD.
- Danna-dos-Santos, A. (2003). Gait adaptations to several levels of decreased knee range of motion. Presented at the IV Physiotherapy Forum, Catholic University of Santos, Santos, Brazil.
- Danna-dos-Santos, A., Degani, A. M., Bezerra, K. C., & Cardoso, V. S. (2003). Influence of decreased range of knee motion on horizontal forces and plantar pressure (Vol. 1, pp. 24–27). Presented at the 10th Meeting Brazilian Biomechanics Society, Ouro Preto, Brazil: Annals of X Brazilian Biomechanics Meeting.
- Degani, A. M., Danna-dos-Santos, A., & Sousa, M. (2003). Anthropometric characteristics of classic ballerinas feet. (Vol. 1, pp. 295–298). Ouro Preto, Brazil: Annals of X Brazilian Biomechanics Meeting.
- Danna-dos-Santos, A., & Barela, J. A. (2001). Effects of diabetes mellitus on the speed of motor responses after a postural perturbation. Presented at the XV Brazilian Physiotherapy Meeting, Sao Paulo, Brazil.
- Danna-dos-Santos, A., & Barela, J. A. (2000a). Functional abnormalities resulting from diabetic neuropathy and transmetatarsal amputation: Study proposal. Presented at the Physiotherapy 2000 Meeting, Fortaleza, Brazil.
- Danna-dos-Santos, A., & Barela, J. A. (2000b). Functional behavior of subtalar joint in patients with chronic ankle sprain. Presented at the Physiotherapy 2000 Meeting, Fortaleza, Brazil.

### **Scientific and Professional Presentations:**

- Danna-dos-Santos, A.; Degani AM (2020, October). *Subjective visual vertical and subjective visual horizontal indices and their modulation in magnitude across the adult lifespan*. Poster presented at the 97th American Congress of Rehabilitation Medicine. Virtual meeting.
- Danna-dos-Santos, A. (2020, September). *Technology development in human physical rehabilitation*. Invited speaker at international round table meeting (on-line) organized by

the WMU Heinecke Institute for Global Education with the Rural Federal University of Recife, Recife-Brasil - Kalamazoo, USA.

- Danna-dos-Santos, A. (2019, May). *Development of a regional service to mild traumatic brain injury survivors*. Round table meeting with by local clinicians from the Sindecuse Health Center and WMU Unified Clinics, Kalamazoo, MI.
- Danna-dos-Santos, A. (2019, February). *Human movement control: a window into understanding the deleterious effects of mTBI and other neural insults*. Invited speaker at Sindecuse Health Center, Kalamazoo, MI.
- Danna-dos-Santos, A. (2019, February). BalanceLab – a system for the study of sensory-motor integration. Presentation and demonstration given to falls interest group and local clinicians at Ernest Wilbur Building research laboratory. Kalamazoo, MI.
- Danna-dos-Santos, A. (2018, November). Balance control and falls – proposal of studies to the falls interest group. Presentation given to falls interest group at WMU-CHHS. Kalamazoo, MI.
- Danna-dos-Santos, A. (2018k, October). *Quantification of Balance Impairment and Intervention Strategies in individuals With Neurological Disorders (Symposium)*. Symposium presented at the 95th American Congress of Rehabilitation Medicine, Dallas, TX.
- Danna-dos-Santos, A. (2018j, July). *Oculomotor and Human Balance Issues on long-term mTBI survivors*. Invited Lecture (On-Line), Federal University of Piaui, Brazil.
- Danna-dos-Santos, A. (2018i, July). *Human balance control of medicated Parkinson's patients*. Invited Lecture (On-Line), Federal University of Piaui, Brazil.
- Danna-dos-Santos, A. (2018h, June). *Rapid screening of TBI in student athletes and veterans of rural mountain west*. Professional meeting talk presented at the 5th Annual Meeting Mountain West Clinical Translational Research Infrastructure Network, Las Vegas, NV.
- Danna-dos-Santos, A. (2018g, May). *A multidimensional screening protocol for the diagnosis of impairments resulting from mild traumatic brain injury (mTBI)*. Invited Lecture, University of Buffalo, Buffalo, NY.
- Danna-dos-Santos, A. (2018f, April). *A multidimensional screening protocol for the diagnosis of impairments resulting from mild traumatic brain injury (mTBI)*. Invited Lecture, Western Michigan University, Kalamazoo, MI.
- Danna-dos-Santos, A. (2018e, March). *Oculomotor and Human Balance Issues on long-term mTBI survivors*. Invited Lecture, Eastern Carolina University, Greenville, NC.
- Danna-dos-Santos, A. (2018d, March). *Long-term effects of mTBI in oculomotor, balance, and bimanual coordination*. Invited Lecture, Youngstown State University, Youngstown, OH.

- Danna-dos-Santos, A. (2018c, February). *Human movement control: a window into understanding the deleterious effects of mTBI and other neural insults*. Invited Lecture, Rutgers University, Blackwood, NJ.
- Danna-dos-Santos, A. (2018b, January). *Translational Research in Mild Traumatic Brain injury: An Interdisciplinary Approach*. Professional meeting talk presented at the 50th Winter Conference on Brain Research, Big Sky, MT.
- Danna-dos-Santos, A. (2018a, January). *A multidimensional screening protocol for the diagnosis of impairments resulting from mild traumatic brain injury (mTBI)*. Online presentation to for US Army Medical Research and Materiel Command (USAMRMC).
- Danna-dos-Santos, A. (2017g, November). *Human movement science as a modern approach to translational medical science*. SUNY Upstate in Syracuse. – NY. Invited Lecture, SUNY Upstate, Syracuse, NY.
- Danna-dos-Santos, A. (2017f, November). *Human movement control: a window into understanding the deleterious effects of mTBI and other neural insults*. Invited Lecture, MGH Institute of Health in Boston, MA.
- Danna-dos-Santos, A. (2017e, July). *Online workshop on modern methods of balance control analysis*. Invited Lecture (On-Line), Federal University of Piaui, Brazil.
- Danna-dos-Santos, A. (2017d, June). *Development of a multi-dimensional system of optokinetic evaluation for mTBI survivors*. Professional meeting talk presented at the CTRIN 3rd Annual meeting, Las Vegas, NV.
- Danna-dos-Santos, A. (2017c, April). *Translational Research in Mild Traumatic Brain injury: An Interdisciplinary Approach*. Invited Lecture, University of North Georgia, Dahlonega, GA.
- Danna-dos-Santos, A. (2017b, March). *Human movement science as a modern approach to translational medical science*. Invited Lecture, University of Tennessee, Memphis, TN.
- Danna-dos-Santos, A. (2017a, January). *Oculomotor and Human Balance Issues on long-term mTBI survivors*. Invited Lecture, Montana State University, Bozeman, MT.
- Danna-dos-Santos, A. (2016e, December). *Translational Science at the Neural Injury Center*. Invited Lecture, VA facility/University of Washington, Pudget Sound, WA.
- Danna-dos-Santos, A. (2016d, December). *Human movement control: a window into understanding the deleterious effects of mTBI and other neural insults*. Invited Lecture, VA facility/University of Washington, Pudget Sound, WA.
- Danna-dos-Santos, A. (2016c, November). *Human movement control: a window into understanding the deleterious effects of mTBI and other neural insults*. Invited Lecture presented at the Friday Morning Series, St Patrick Hospital, Missoula, MT.
- Danna-dos-Santos, A. (2016b, September). *Development of a multi-dimensional system of evaluation for mTBI survivors*. Invited Lecture, Legislature visit at University of Montana, Missoula, MT.

- Danna-dos-Santos, A. (2016a, May). *Human movement control: a window into understanding the deleterious effects of mTBI and other neural insults*. Invited Lecture, Center for Brain Recovery, University of New Mexico, Albuquerque, NM.
- Danna-dos-Santos, A. (2015b, January). *Multi-muscle control: a window into understanding the deleterious effects of mTBI and other neural insults*. Winter Conference on Brain Research. Professional meeting talk presented at the Winter Conference on Brain Research, Big Sky, MT.
- Danna-dos-Santos, A. (2015a, January). *Multi-muscle control: a window into understanding the deleterious effects of mTBI and other neural insults*. Invited Lecture, Eastern Washington University, Spokane, WA.
- Danna-dos-Santos, A. (2014c, July). *Principles of multi-muscle control of postural muscles*. Invited Lecture, State University of Londrina.
- Danna-dos-Santos, A. (2014b, June). *Why don't we fall?* Invited Lecture, Federal University of Piaui, Brazil.
- Danna-dos-Santos, A. (2014a, April). *Multi-muscle control of postural muscles: Manifolds and Frequencies*. Professional meeting talk presented at the 2nd International Summit on Integrative Biology, Chicago, IL.
- Danna-dos-Santos, A. (2013, March). *Multi-muscle control of postural muscles: Manifolds and Frequencies*. Invited Lecture, Pennsylvania State University.
- Danna-dos-Santos, A. (2012, October). *Multi-muscle control of postural muscles: Manifolds and Frequencies*. *The University of Montana, Missoula*. Invited Lecture presented at the Physical Therapy Series, University of Montana, Missoula, MT.
- Danna-dos-Santos, A. (2009, December). *Effect of grasping force magnitude and fatigue on the coordination of multiple hand muscles during three-digit grasping*. Invited Lecture, University of Montana, Missoula, MT.
- Danna-dos-Santos, A. (2003c, October). *Influence of decreased range of knee motion on horizontal forces and plantar pressure*. Professional meeting talk presented at the X Brazilian Biomechanics Meeting, Ouro Preto, Brazil.
- Danna-dos-Santos, A. (2003b, September). *The role of the physiotherapist specialized in orthopedics in hospitals and clinics*. Professional meeting talk presented at the IV Physiotherapy Forum, Catholic University of Santos.
- Danna-dos-Santos, A. (2003a, September). *Gait adaptations to several levels of decreased knee range of motion*. Professional meeting talk, Catholic University of Santos, Santos, Brazil.
- Danna-dos-Santos, A. (2002b, March). *First aid in sports: from the simple to life threatening*. Invited Lecture and Workshop, University of Ribeirao Preto in Guarujá, Guarujá, Brazil.

Danna-dos-Santos, A. (2002a, February). *The use of functional taping in professional athletes*. Invited Lecture and Workshop, University of Ribeirao Preto in Guarujá, Guarujá, Brazil.

Danna-dos-Santos, A. (2001b, February). *Prevention of lesions on lower limbs of soccer players, adults and kids*. Invited Lecture, Paulista State University, Rio Claro, Brazil.

Danna-dos-Santos, A. (2001a, February). *Knee and Ankle mechanisms of lesion in soccer players and first aids*. Invited Lecture, Paulista State University, Rio Claro, Brazil.

### **Funded/In Review Grant Activity:**

Danna-Dos-Santos A (PI)  
Development of a low-cost expirometer for the rural areas of Michigan  
\$ 9,000.00 (funded)  
WMU – OVPR office  
6/2020 – 6/2021

Webb D (Co-PI), Danna-dos-Santos A (PI).  
Sit to stand robotic mechanism: proof of concept.  
\$ 2,500.00 (funded)  
Sammons Center for Innovation and Research in Occupation Based Technology  
8/2019 – 8/2020

Danna-Dos-Santos A (PI)  
Funds for dissemination of findings at 95th American Congress of Rehabilitation Medicine,  
\$ 800.00 (funded)  
WMU – OVPR office  
9/2018

Danna-Dos-Santos A (PI)  
Short-Term Efficacy of an Eight-Week Balance-Oriented Intervention  
\$ 240,000.00 (not funded)  
Foundation for Physical Therapy Research - Goergeny High Impact/High Priority Research  
1/1/2020 – 12/31/2021

Webb D, Ari-Agur P, Danna-Dos-Santos A,  
Efficacy Testing of an Interventional Tool for Low Vision Patients: An Instrumented Vest for  
Obstacle Detection and Fall Prevention.  
\$ 240,000.00 (not funded)  
Foundation for Physical Therapy Research - Goergeny High Impact/High Priority Research  
1/1/2020 – 12/31/2021

Webb, D & Danna-dos-Santos A (Co-Pis)  
STS (Sit-To-Stand Prototype)  
Sammons Center for Innovation and Research in Occupation Based Technology  
\$ 2,500 (funded)

7/18/2018 – 7/17/2019

Danna-dos-Santos A. & Mohapatra S.M. (Co-PIs)

Rapid screening of TBI in student athletes and veterans of rural mountain west

\$ 66,000 (funded)

7/15/2017 – 6/30/2018

Clinical and Translational Research Infrast. Network: Pilot Grant Program 3rd round (CTR-IN- U54GM104944)

Patel S, Rau T., Danna-dos-Santos A. (Co-PIs)

Translational Science at The Neural Injury Center: Expanding Clinical Services, Establishing Diagnostic Testing, and Developing Novel Therapeutic Interventions for Traumatic Brain Injury Survivors.

\$ 2.2 Million (funded)

8/1/2015 – 6/30/2017

Montana University System Research Initiative (51030-MUSRI2015-01)

Rau T. & Danna-dos-Santos A. (Co-PIs)

The Development of a Multi-Dimensional System of Oculomotor Evaluation for mTBI.

\$ 62,000.00 (funded)

7/1/2015 – 6/30/2016

Clinical and Translational Research Infrast Network: Pilot Grant Program 3<sup>rd</sup> round (CTR-IN-U54GM104944)

Danna-dos-Santos A. & Degani A.M. (Co-PIs)

Effects of task complexity to Intermuscular (EMG-EMG) and Cortico-muscular (EEG-EMG) synchronization during the execution isometric contractions

\$ 24,787.00 (funded)

2014 - 2015

Montana Neuroscience institute Foundation:

Danna-dos-Santos A. (PI)

Effects of polyneuropathy and transmetatarsal amputations to human posture control

\$ 22,600.00 (funded)

1999 – 2000

Sao Paulo State Foundation of Research (FAPESP #99/08047-7)

Danna-dos-Santos A. (PI)

Lower back pain: principles of best practices

\$ 1,800.00 (funded)

1998 – 1999

University of Sao Paulo/Medicine School, Ribeirao Preto, Brazil

### **Current/Active Research Activity:**

Tech development.:

Danna-dos-Santos A.

Development of hardware and dedicated software for low-cost expirometer for the rural areas of Michigan.

Concept development – system being tested

Expected unveiling of prototype: December 2020

Danna-dos-Santos A.

Development of low-cost childrens face shields for low-income schools of Kalamazoo, MI.

Concept developed – 200 units delivered.

Project current.

Webb D, Danna-dos-Santos A.

Sit to stand robotic mechanism

Concept development – prototype concluded

Second generation being developed

Expected unveiling of 2<sup>nd</sup> generation: September 2021

Danna-dos-Santos A.

Development of low-cost clinical force platform for balance assessment

Concept development – prototype being constructed

Expected unveiling of prototype: December 2020

Danna-dos-Santos A.

Development of signal acquisition system

Late stages of final testing –

Expected unveiling: December 2020

Danna-dos-Santos A.

Development of a local data base for research at the WMU-DPT laboratory

Finalized

Danna-dos-Santos A.

Development of a hand-held computerized dynamometer for Dr. Daryl Lawson and research at the WMU-DPT laboratory

Finalized

Scientific:

Santos M, Degani AM, Danna-dos-Santos A.

Changes in postural sway behavior across lifespan

Dissemination stage.

Expected journal submission: Spring 2021

Danna-dos-Santos A. Degani AM.

Inhibition of dedicated neuromechanisms of posture control in urinary incontinence.

Dissemination stage.

Expected journal submission: Spring 2021

Degani AM, Cardoso VS, Magalhaes AT, Danna-dos-Santos A.

Mimicking pregnancy: pregnancy related falls are much more than weight gain.

Dissemination stage.

Journal to be determined.

Expected journal submission: Spring 2021



Danna-dos-Santos A.

Tonic stretch reflex modulation induced during pregnancy and its changes in postural control.

Initial Stages.

Degani AM, Santos M, Danna-dos-Santos A.

Effects of an 8-week balance exercise program to postural behavior in young and healthy adults.

Dissemination stage.

Journal to be determined.

Expected journal submission: Summer 2021

Danna-dos-Santos, Degani AM.

Sensitivity and reliability of a multidimensional protocol for rapid screening of long-term effects of mTBI. Journal to be determined.

Dissemination stage.

Journal to be determined.

Expected journal submission: Spring 2021

Danna-dos-Santos A. & Degani AM.

Multi-muscle synergies during quiet standing

Project addresses the neurophysiological principles of multi-muscle control of postural muscles during quiet standing.

Ongoing

Degani AM. & Danna-dos-Santos A.

Multi-muscle synergies during quiet standing on elderly subjects

Project addresses the neurophysiological principles of multi-muscle control of postural muscles in elderly citizens and their relation to higher risks of falling.

Ongoing

Danna-dos-Santos A., Degani AM.

Long-term effects of mTBI to multi-muscle coordination, postural control, and oculomotor efficiency.

Project addresses the effects of traumatic brain injury to the neurophysiological principles of human coordination.

Ongoing

Danna-dos-Santos A., Degani A.M.

Identifying proximal and distal outcomes after mild traumatic brain injuries (mTBI): Exploring a novel strategy for implementing the mTBI clinical practice guidelines.

Ongoing

## **Students Advising**

### Doctoral Level

Degani AM. (2012-2015). Distribution of correlated neural inputs to aging postural muscles.

- Brubaker JM. (2019-current). Development of a multidimensional score for postural assessment.
- Ambs AE. (2019-current). Development of a multidimensional score for postural assessment.
- Beyer CE. (2019-current). Development of a multidimensional score for postural assessment.
- Peters, C. (2013-2015). Corticomotor excitability changes during mirrored or asynergistic wrist movements
- Moore, M. (2013-2015). Corticomotor excitability changes during mirrored or asynergistic wrist movements
- Tabor, L. (2012-2014). Common neural inputs to postural muscles during quiet stance.
- Schmeckpeper, M. (2012-2014). Common neural inputs to postural muscles during quiet stance.
- Harney, A. (2012-2014). Common neural inputs to postural muscles during quiet stance.

#### Professional level (post-doctoral)

- Degani AM. (2019-current). Multi-muscle synergy and higher risks of falling.
- Cardoso VS. (2019-2020). Effects of pregnancy to postural control and behavior.
- Magalhaes AT. (2019-2020). Increased visual dependency to postural control caused by long-term effects of mild traumatic brain injuries.

#### Master's Level

- Santos, M. (2015-2017). Changes in postural sway behavior across the life span.

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

- Member, American Association of Anatomists (2017 – current)
- Member, American Physical Therapy Association (# 662210) (2013 – current)
- Member, Society for Neuroscience (# 200072987) (2009 – current)
- Member, International Society of Motor Control (IMC) (2005 – current)
- Member, Brazilian Society of Biomechanics (2002 – 2004)
- Member, Physiotherapy Board/ section 3 Sao Paulo, Brazil (#26681-F) (1999 – current)

#### **Consultative and Advisory Positions Held:**

- CEO, Founder, and Senior Executive Board Member  
Synergy Applied Medical and Research, Inc.  
<https://www.samrsolutions.com/>  
June 2016 - present

### **Community and Professional Service:**

Coordinator, researcher, and Physical Therapist

#### **Development of a regional service to screen and treat higher risks of falls.**

Status: Initiated in October 2019 - ongoing

Purposes: To provide screening and interventional services aiming improvement of the quality of life of citizens under higher risks of falls. To develop modern clinical approaches to the diagnostic and treatment of higher risks of falls

Researcher and Physical Therapist

#### **Translational Research at the Neural Injury Center at The University of Montana.**

Status: Concluded

Purpose: To develop new technologies to the screening of survivors from mild traumatic brain injuries and improve the quality of care for student veterans, athletes, elderly, children in school age.

Neural Injury Center

University of Montana

October 2014 – August 2018 (Concluded)

Collaborator

#### **Parkinson's Project**

Purpose: Project addresses exercise-based interventions to groups of Parkinson's patients residing in metropolitan and rural areas of Londrina city (PR, Brazil). The project aims to provide exercise based interventions to minimize the motor effects of Parkinson disease and facilitate the integration of these survivors into support groups. The project reaches for several rural and metropolitan areas where citizens suffering from Parkinson's Disease do not have health insurance. Dr Suhaila Smaili Santos leads the initiative of the group (Research Group in Neurofunctional Physiotherapy at the State University of Londrina, Brazil). As a recent collaborator I have facilitated the process of dissemination of the results of previous studies carried by Dr Suhaila's group.

Role: Collaborator

Affiliation: University of Montana

2014 (Concluded)

Coordinator

#### **'Projeto Mais Idade' (translation: Project Advanced Age).**

Purpose: This project addressed methods of prevention and interventions regarding higher risks of falls for elderly citizens underserved by the health care system of Santos city (Brazil). At the time Santos city was recognized as an area of large concentration of elderly citizens and a very low income per-capita on its metropolitan areas. The Physical Therapy clinic I directed during that time initiated a study aiming to recognize the aspects of health-related comorbidities of several metropolitan areas. This prospective study revealed areas with large indices of fall-related comorbidities, obesity, and peripheral vascular diseases. The strategy implemented was the creation of three separate projects; one project addressed the higher risk of falls, a second one (below) to address the possible development of diabetic plantar ulcers, and the third project aimed to increase the reach to citizens with higher risk of developing type-II diabetes and/or coronary disease. The first project counted with the implementation of physical therapy group interventions aiming body balance training and physical activity in general. Local churches and community centers were included as the sites for the interventions.

Role: Coordinator.  
Affiliation: Catholic University of Santos, Santos- Brazil.  
2001 – 2004 (Concluded)

Coordinator

**'Projeto Ande Bem' (translation: Project Walking Well).**

Purpose: Project addressed screening, care, and prevention of diabetic plantar ulcers affecting underserved diabetic patients of the city of Santos and its metropolitan areas. This project included development of techniques for measurement and correction of abnormal plantar pressure in neuropathic feet and construction of low-cost insoles. Citizens recognized as under risk of ulceration were brought to our clinical facility for measurement of plantar pressures and insole parameters. All procedures (including transportation) were free of charge

Role: Coordinator.  
Affiliation: Catholic University of Santos, Santos- Brazil.  
2001-2004 (Concluded).

Coordinator

**'Projeto Praia' (translation: Project Beach).**

Purpose: Project addressed screening for high blood pressure, hyperlipidemia, diabetes mellitus, and back pain for citizens of the city of Santos (SP, Brazil) and its metropolitan areas. The project included screenings on several city areas including weekend beach goers.

Role: Coordinator  
Affiliation: Catholic University of Santos, Santos- Brazil.  
2001 – 2004 (Concluded)

Volunteer Physical Therapy trainee.

**'Projeto Parque Ouro Branco' (translation: Project White Golden Park).**

Purpose: This project aimed improvement of life quality of underserved elderly citizens residing on White Golden Park area (metropolitan area of Londrina city, Brazil). Exercise-based physical therapy, psychology, and social work interventions were implemented. This area was found to house a large number of underserved citizens above 65 years of age with significantly higher indices of type-II diabetes, and fall-related comorbidities. This area also suffered with the lack of an optimal system of public healthcare and transportation. Our strategy was the implementation of interventions aiming physical rehabilitation (balance training), improvement of physical activity habits, formation and integration of support groups within the community. Group sessions were held twice a week during the duration of the project.

Role: Volunteer Physical Therapy trainee.  
Affiliation: State University of Londrina, Londrina- Brazil.  
1995 – 1997 (Concluded)

Volunteer Physical Therapy trainee.

**'Projeto Futuro' (translation: Project Future)**

Purpose: This project addressed aspects of prevention and physical rehabilitation to sports-related injuries in young soccer athletes (6-14 years of age) residing in an underserved metropolitan area of Londrina city (Brazil). This project targeted children from low-income households (approx. 60 young athletes) who were trained by volunteers. The group was found to be under the risk of development of orthopedic insults and long-term orthopedic pathologies due to poor quality of training facilities, sport-related material, and volunteers' instruction regarding the prevention and treatment of such pathologies. Strategy implemented

focused the participation of physical therapy and physical education trainees in the process of developing customized soccer training practices, physical preparation, on-site supervision and education of volunteers on prevention and first aids of injuries.

Role: Volunteer Physical Therapy trainee.

Affiliation: State University of Londrina, Londrina- Brazil.

1996 – 1997 (Concluded)

Volunteer Physical Therapy trainee.

**The question of quality nutrition: a study based on the methodology of problematization.**

Purpose: This project addressed the interdisciplinary approach to the social and health aspects of living of an underserved population located at Jardim Laranjeiras (metropolitan area of Londrina city, Brazil). The study revealed poor quality of nutrition on that area. The strategy implemented focused on improving access to low-cost and higher quality food to the affected population. The strategy also focused on the education of the local citizens regarding their nutritional habits and how to use soy bean products as protein supplement to their diet. Access to higher quality food was achieved by including both the Brazilian National Center for Soy Research and local City Hall into the program. The Center provided the expertise on preparation of soy paste-based foods. City Hall included the area into the weekly schedule of the farmer's market. Training for the preparation of soy- based food was done in local churches and local community centers.

Role: Volunteer Physical Therapy trainee.

Affiliation: State University of Londrina, Londrina- Brazil.

1994 – 1995 (Concluded)

**Services to the University/College/School on Committees/Councils/Commissions:**

University:

Development of a regional service to screen and treat higher risks of falls.

Unified Clinics

Western Michigan University Unified Clinics

2019 – present

Development of a short-term international program

Western Michigan University Haenicke Institute for Global Education

2018 – present

Representative of WMU Haenicke Institute for Global Education for the establishment of international collaboration in higher education.

Western Michigan University Haenicke Institute for Global Education

2018 – present

Representative of UM Neural Injury Center (NIC) on local, Statewide, Nationwide, and International meetings, including visits with research agencies, State representatives, MT University System Board of Regents, MT Governor, US Congress and US Senate representatives, US VA Secretary, VA facilities, and Donors

University of Montana

2015 – 2018

Representative of UM CT Leonard Motor Control Laboratory (CTL-MCLab) on local, Statewide, Nationwide, and International meetings  
University of Montana  
2011 – 2018

Coordination and/or participation in multiple on-site and off-site demonstrations of research capabilities and achievements of the NIC and CTL-MCLab.  
University of Montana  
2010 – 2018

Member of multiple PhD and MSc committees across UM Colleges (outside UM School of Physical therapy and Rehabilitation Science - UMPT)  
University of Montana  
2010 – 2018

Member of multiple UM hiring faculty committees (outside UMPT)  
University of Montana  
2010 – 2018

Service for Academic Units:

Establishment and management of Laboratory for Advances in Rehabilitation Sciences research laboratory website and media coverage.  
Department of Physical Therapy  
September 2019 - present

Aid to the preparation of WMU-DPT credentialing documents and site visit  
Department of Physical Therapy  
September 2018 - 2019

Aid to the development of courses and programmatic content of WMU-DPT curriculum (PTHD 6000, 6105, 6280, 6380, 6580, 6680, and 6560)  
Department of Physical Therapy  
September 2019 - present

Aid to the development of courses and programmatic content of WMU-DPT curriculum (PTHD 6000, 6105, 6280, 6380, 6580, 6680, and 6560)  
Department of Physical Therapy  
September 2019 - present

Establishment and management of Laboratory for Advances in Rehabilitation Sciences research laboratory including the provision of all its equipment (approximately \$350,000.00)  
Department of Physical Therapy  
September 2019 - present

Research development mentoring and support to departmental colleagues  
College of Health and Human Services  
Western Michigan University  
2018 - present

Member of an interest group interested into higher risks of falls and its related injuries.  
College of Health and Human Services  
Western Michigan University  
2018 - present

Interviewer for WMU DPT student admissions  
Department of Physical Therapy  
October 2018 - present

Chair and member of WMU DPT Personnel Committee  
Department of Physical Therapy  
September 2019 - present

Member of WMU DPT Faculty Affairs Committee  
Department of Physical Therapy  
September 2019 - present

WMU DPT Representative with the WMU AAUP  
Department of Physical Therapy  
September 2019 – February 2020

Design and installation of storage shelving at WMU-DPT storage room at the Ernest Wilbur Building  
Department of Physical Therapy  
September 2019

Member of CHHS Anatomy and Physiology task-force  
College of Health and Human Services  
Western Michigan University  
2018 - 2019

Co-chair and Member of CHHS International Committee  
College of Health and Human Services  
Western Michigan University  
2018 - present

Reviewer for CHHS Interdisciplinary Studies  
College of Health and Human Services  
Western Michigan University  
December 2018 - present

Former chair of WMU DPT Research Committee  
Department of Physical Therapy  
October 2018 - present

Aid to the installation and organization of current WMU-DPT teaching classrooms and laboratories.  
January 2019 – June 2019

Representative of WMU DPT program on local (John T. Bernhard Center) career fair

Department of Physical Therapy  
August 2018

Representative of WMU DPT program on annual WMU's Bronco Stampede  
Department of Physical Therapy  
October 2018

Representative of WMU DPT program on CHHS Immersion day  
Department of Physical Therapy  
November 2018

Member of multiple UMPT faculty hiring committees  
University of Montana  
2010 – 2018

Member of UMPT Admissions committee  
University of Montana  
2010 – 2015

Member of UMPT Research committee  
University of Montana  
2010 – 2018

Member of UMPT Curricular Enhancement (Fix-it) committee  
University of Montana  
2013

Chair of UMPT Admissions committee  
University of Montana  
2012 – 2015

Chair of UMPT Research committee  
University of Montana  
2014 – 2018

Member of UM College of Health Professions & Biomedical Sciences (CHPBS) force-task  
for research development  
University of Montana  
2015 - 2018

Mentor of multiple International students and high-school students interested in scientific  
development  
CT Leonard Motor Control Laboratory (CTL-MCLab)  
University of Montana  
2010 – 2018

Mentor of multiple DPT students on research development  
UMPT  
University of Montana  
2010 – 2018



Creation and maintenance of CTL-MCLab website  
University of Montana  
2014 – 2018

Innovation of CTL-MCLab mission by orienting its focus to facilitate the access of minorities and woman seeking to start or return to an academic career  
University of Montana  
2014 – 2018

Host of several international visitors to develop research at the CTL-MCLab  
University of Montana  
2014 – 2018

Facilitator for local high-school visitors at the CTL-MCLab and UMPT Human Anatomy Laboratory  
University of Montana  
2014 – 2018

Acquisition of material and maintenance of the UMPT Human Anatomy Laboratory  
University of Montana  
2010 – 2018

Transportation and maintenance of cadaveric specimens from UMPT Human Anatomy Laboratory  
University of Montana  
2010 – 2018

Continuous development of dedicated material (handbooks) for UMPT Human Anatomy Laboratory  
University of Montana  
2010 – 2018

Remodeling of UMPT Human Anatomy Laboratory  
University of Montana  
2010 – 2012

Creation of Optokinetic, Balance, and Cognitive testing facilities (Neural Injury Center and UMPT Motor Control Laboratory)  
University of Montana  
2010 – 2018

Creation of advertisement video for the UM Neural Injury Center  
University of Montana  
2010 – 2018

**Honors and Awards:**

-none-

**Continuing Education Attended:**

6-months self-study (Feb – Jul 2019) guided by May BJ, Lockard MA. *Prosthetics & Orthotics in Clinical Practice: A case study approach*. 1<sup>st</sup> edition (2011). F.A. Davis. 448 pages. ISBN-13: 978-0803622579. Completed.

Basic Life Support – 3 contact hours. Provider: Borgess Medical Center. 6/17/2019

MedBridge Education and Training. 8.75 contact hours. On line. July 1 – August 30, 2019:

- Case Studies in Motor Learning Part C: Post-Stroke.
- Case Studies in Motor Learning Part B: Total Knee Arthroplasty.
- Case Studies in Motor Learning Part A: Balance Deficits.
- Motor Learning Strategies: Interventions at the Environment Level.
- Motor Learning Strategies: Principles for Application.
- Orthopedic Considerations for the Post-Stroke Upper Extremity.
- Comprehensive Care for the Older Adult: Mild Dementia.

2019 APTA combined sections meeting. 1.4 CEUs. 14 contact hours. Washington, DC. January 23 – January 26, 2019:

- Research funding symposium.
- Using movement system diagnosis and functional interventions to address mobility.
- Breaking down silos: Innovative resources for residency-fellowship educators
- Rehabilitation for the individual with lower limb amputation CPG.
- Evidence-based exercise interventions for people with Parkinson disease.
- The NCS/EMG study results are in: now what?
- Academy of neurologic PT platform series.

Amputee Rehabilitation Across the Continuum of Care using Evidence Based Practice. 14 contact hours. Education Resources. Indianapolis, IN. November 30 - December 1, 2018

APTA learning center continued education courses (on-line). 1.4 CEUs. 14 contact hours. August 20 – December 10, 2018.

- Comprehensive care joint replacement model.
- Integrated approach to balance with motion capture system.
- Managing concussions with an interprofessional team.
- Musculoskeletal pain management principles.
- Physical Fitness training after stroke.
- Physical therapist interventions for Parkinson Disease.
- Rehabilitation of individuals with Dementia.

95th Annual Meeting American College of Rehabilitation Medicine. 17.25 CCUs. 17.25 contact hours. Dallas, TX. September 28 – October 3, 2018

- DVBC's New Clinical Recommendations: Rehabilitation of Cognitive Dysfunction following Mild-Moderate TBI.
- Active Rehabilitation for Pediatric Concussion: Why, What, When, Who, and How.
- Anxiety Disorders and Traumatic Brain Injury: Controversies, Caveats and Careful Considerations.
- Multidimensional Approach to Data Analysis in the Veteran Population.

- Usability of the Group Lifestyle Balance Program – Adapted for individuals with Impaired Mobility (GLB-AIM).
- Utilizing Gait Speed as a Screening Measure for Functional Capability in Lower Extremity Amputees.
- Prediction for Future Falls in High-Risk Community-Dwelling Older Adults
- Integrative Rehabilitation for Traumatic Brain Injury (TBI).
- Mobile Technologies for Assessment and Treatment in Traumatic Brain Injury.

5th Annual Meeting Mountain West Clinical Translational Research Infrastructure Network  
Health Disparities in the Mountain West Region. Las Vegas, NV. June 11 - June 12 2018

- Adapted Integrative Health Coaching to Improve Pain Management for Hispanic Patients in Primary Care.
- Decreasing Health Disparities for Persons with Parkinson's Disease (PD) in Rural Communities: Assessing Feasibility of Coordinated Telehealth.
- Multisensory Perceptual Training in the Elderly.
- Innovative Approaches for Addressing Health Disparities Among Americans Indians and Alaska Natives.

3rd Annual Meeting Mountain West Clinical Translational Research Infrastructure Network.  
Las Vegas, NV  
June 6-8, 2016

APTA Combined Sections Meeting  
Anaheim, CA  
February 17-20, 2016

9th World Congress International Brain Research Organization IBRO 2015  
Rio de Janeiro, Brazil  
July 2015

Winter Conference on Brain Research  
Big Sky, MT  
January 2015

APTA Combined Sections Annual Meeting  
Indianapolis, IN  
February 2015

Society for Neuroscience Annual Meeting  
Washington, DC  
November 9-13, 2014

APTA Combined Sections Annual Meeting  
Las Vegas, NV  
February 3-6, 2014

APTA Combined Sections Annual Meeting  
San Diego, CA  
January 21-24, 2013

Society for Neuroscience Annual Meeting

San Diego, CA  
November 9-13, 2013

**Current Teaching Responsibilities in the Entry-Level Program for Academic Year of Site Visit:**

WMU's assigned classes for the next 3 years:

- PTHD 6000 - Gross Human Anatomy (primary instructor).
- PTHD 6105 - Foundations of Neuroscience (primary instructor).
- PTHD 6280 - Research Foundations for Physical Therapists (co-instructor).
- PTHD 6380 - Applied Discovery for Physical Therapists I (co-instructor).
- PTHD 6580 - Applied Discovery for Physical Therapists II (co-instructor).
- PTHD 6680 - Applied Discovery for Physical Therapists III (co-instructor).
- PTHD 6980 - Applied Discovery for Physical Therapists IV (co-instructor).
- PTHD 6390 - Comprehensive Clinical Performance Assessment I (co-instructor).
- PTHD 6890 - Comprehensive Clinical Performance Assessment II (co-instructor).