Vita

James S. Thomas

PROFESSIONAL ADDRESS:

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EDUCATION:

Ph.D., Kinesiology, University of Illinois at Chicago, Illinois, 2000

M.S., Kinesiology, University of Illinois at Chicago, Illinois, 1997

B.S., Physical Therapy, Saint Louis University, Saint Louis, Missouri, 1985

PROFESSIONAL INFORMATION:

FULL TIME APPOINTMENTS

2018-present	**Professor**, Department of Physical Therapy, and Department of Physical Medicine and Rehabilitation, Virginia Commonwealth University, Richmond, Virginia
2017-2018	**Associate Director of Ohio Musculoskeletal and Neurologic Institute**
2012-2018	**Professor** & **Director of Research**, Division of Physical Therapy, School of Rehabilitation and Communication Sciences
2012-2018	**Professor**, Department of Biomedical Sciences, College of Osteopathic Medicine and Department of Biological Sciences Ohio University, Athens, Ohio
2010- 2012	**Associate Professor**, Department of Biomedical Sciences, College of Osteopathic Medicine, Ohio University, Athens, Ohio
2005- 2012	**Associate Professor**, School of Rehabilitation and Communication Sciences, Division of Physical Therapy, Ohio University, Athens,

	Ohio
1999-2005	**Assistant Professor**, School of Physical Therapy, Ohio University, Athens, Ohio
1992-1999	**Orthopedic Clinical Specialist and Adjunct Clinical Faculty**, Department of Physical Therapy, University of Illinois at Chicago, Chicago, Illinois
1991-1992	**Physical Therapist**, Therapy Finders Inc., Saint Louis, Missouri
1987-1991	**Physical Therapist**, Tuckey and Associates Inc., Saint Louis, Missouri
1985 - 1987	**Physical Therapist**, Irene Walter Johnson Institute of Rehabilitation, Washington University, Saint Louis, Missouri

PROFESSIONAL ASSOCIATIONS

LICENSES

Registered Professional Physical Therapist State of Missouri (1985), State of Illinois (1992), State of Ohio (1999)
A.P.T.A. Board Certified Orthopedic Clinical Specialist (1993-2003)

SOCIETY MEMBERSHIPS

American Physical Therapy Association (1983-present): Research Section, Orthopedic Section
Society for Neuroscience (1999- present)
Society for the Neural Control of Movement (2004-present)

HONORS

Research and Creative Activity Award in the College of Health and Human Services (2016-2017)

Ohio University Presidential Research Scholar Award (2016)

Research and Creative Activity Award in the College of Health and Human Services (2007-2008)

Research and Creative Activity Award in the College of Health and Human Services (2004-2005)

Nominated for Outstanding Teaching Award in the College of Health and Human Services (2003-2004)

Nominated for Outstanding Teaching Award in the College of Health and Human Services (2001-2002)

Scholarly Goals

I have been a licensed physical therapist for 32 years with over 15 years of clinical experience specializing in orthopedics and low back pain. Over the past 17 years, I have melded my clinical experiences and knowledge with my training in neuroscience to better understand trunk control and low back pain. In my time at Ohio University I have taken a multi-track approach to addressing the complex problem of low back pain. This approach includes 1) developing techniques to elucidate neural control of trunk movement, 2) using randomized clinical trials (RCT) to better understand underlying mechanisms of classic treatments for low back pain, and 3) the development of novel virtual reality approaches to 1) understand the neurophysiological basis for trunk motion, and 2) improve trunk motion in chronic low back pain sufferers. I have a strong record of extramural funding and have been funded by the NIH since 2004. Furthermore, my work is largely interdisciplinary as evidenced by my close and long-term collaborations with Dr. France in the Department of Psychology and Dr. Clark, a physiologist, in the Department of Biomedical Science. The common thread of my work to date has been on understanding trunk control in participants with and without a history of low back pain and how control is influenced by fear cognitions. Accordingly, my scholarly goals are to continue to 1) develop robust experiments to elucidate the underlying neurophysiological control of trunk movements, 2) use RCT approaches to assess classic (e.g., spinal manipulation) and novel (e.g., virtual reality) interventions for the treatment of chronic low back pain, and 3) develop the methods to apply classic physiological methods (e.g., central activation, twitch-interpolation) to the trunk extensors to better characterize trunk musculature.

EXTRAMURAL GRANTS:

Funded (Current)
PRINCIPAL INVESTIGATOR (**THOMAS** & FRANCE)
Virtual immersive gaming to optimize recovery in low back pain (VIGOR)
NIH R01-HD0088417-01A1 $2,836,279
(Total Cost)
Aug, 2017 - Jun, 2022
This application is a phase II RCT that follows from our R21 application. We will examine the effectiveness of our virtual dodgeball game to reduce fear cognitions and increase lumbar motion in participants with chronic low back pain.

PRINCIPAL INVESTIGATOR (**THOMAS** & CLARK)

Neuromuscular mechanisms underlying spinal manipulation treatments: The RELIEF Study
NIH R01- AT006978-01A1 $2,104,849 (Total Cost)
SEP, 2012 - JUN, 2017 (No cost extension year: JUN 2018 $450,000 (Total Cost))

This application is in response to program announcement PA-10-209 “Biology of Manual Therapies.” While considerable evidence supports the efficacy of spinal manipulation treatment of LBP, little is known about the mechanisms underlying these treatments. Spinal manipulative treatments can be broadly classified as non-impulse and impulse-based techniques. Non-impulse-based techniques (e.g., muscle energy) use a low-velocity and low-force approach that generally does not produce audible joint sounds, whereas impulse-based techniques (e.g., translatory thrust) use a high-velocity and low-amplitude approach often accompanied by an audible sound from one or more joints. Accordingly, the overall goal of this application is to examine the mechanisms of non-impulse and impulse-based spinal manipulative techniques to treat individuals with sub-acute LBP. We propose three aims to examine the effects of non-impulse and impulse-based spinal manipulative treatments on 1) lumbar muscle activity, 2) spinal mediated reflexes, and 3) cortical excitability. Aim 4 will examine the relationships between physiologic effects of spinal manipulation and the changes in pain and disability.

PRINCIPAL INVESTIGATOR (**THOMAS**)
Administrative Supplements for Research on Sex/Gender Differences for: The RELIEF Study
NIH R01- AT006978-01A1 $100,000 (Total Cost)
JUL, 2016 - JUN, 2017

This application is in response to the opportunity for additional funding through PA-16-066, *Administrative Supplements for Research on Sex/Gender Differences in human health and illness. It will supplement our parent R01* NIH R01 AT006978 (The RELIEF Study). We seek to examine the effects of sex on 1) trunk stiffness in response to multi-directional seated perturbations in participants with chronic LBP compared to matched healthy controls and 2) changes in trunk stiffness in response to multi-directional seated perturbations in participants with chronic LBP following an initial spinal manipulative treatment and following a 3-week course of treatment.

CO-INVESTIGATOR (**THOMAS**)
Development of a virtual reality graded exposure intervention for low back pain
NIH R34-DA040954-01A1 $345,025 (Total Cost)
SEP, 2016 - AUG, 2018

This treatment development project examines safety and feasibility of a home-based virtual reality game for graded exposure to feared movements in people with back pain.

CO-INVESTIGATOR (**THOMAS**)
NIH R21-AR063909 $413,875 (Total Cost)

SEP, 2016 - AUG, 2019
Innovative neurophysiological techniques for assessing trunk muscle control and function

This application will develop 1) a reliable fMRI protocol that investigates the activity of motor neural networks of selected trunk muscles and 2) a reliable muscle functional MRI protocol to assess spatial muscle activation patterns of the deep lumbopelvic muscles.

CO-INVESTIGATOR (**THOMAS**)
Novel exercise interventions to improve trunk function in low back pain: A Pilot Study
NIH R21-AR063909 $408,375 (Total Cost)
SEP, 2014 - AUG, 2016

This paradigm involves performing exercise with low loads while blood flow to the working muscles is partially occluded by a pressure cuff. We have previously shown that a single bout of BFR exercise increases circulating endocrine growth factors, and we recently completed preliminary studies on chronic BFR exercise training and observed that this modality enhances muscle function without negatively impacting indices of arterial stiffness, nerve conduction, inflammation, and blood coagulation. In this application we propose to conduct an exploratory trial as it relates to determining the effects BFR exercise on erector spinae muscle morphometry and function in patients with recurrent LBP.

CO-INVESTIGATOR (**THOMAS**)
Neural Mechanisms of dynapenia
NIH R01- AG044424 $1,752,490 (Total Cost)
SEP, 2014 – AUG, 2018

This project will address three specific aims. The first is to determine whether dynapenic elders exhibit differences in knee extensor voluntary activation (VA) in comparison to on-dynapenic elders. The second is to determine whether dynapenic elders exhibit differences in intracortical excitability (assessed via paired-pulse transcranial magnetic stimulation) of the quadriceps femoris muscles in comparison to non-dynapenic elders, and to examine the association between measures of intracortical excitability and VA. The last is to determine the association between the changes in strength, VA, and intracortical excitability induced by motor imagery training and unilateral resistance exercise training in dynapenic individuals.

Under Review

NIH Total Cost (5 yrs, $3,410,119)
PRINCIPAL INVESTIGATOR (**THOMAS**)
Identifying Bio-Markers of recurrent back pain

DoD Total Cost (1yr, $199,835)
PRINCIPAL INVESTIGATOR (**THOMAS**)
Development of an innovative virtual reality instrument to quantify balance-related post-concussive symptoms to expedite return to activity

PRINCIPAL INVESTIGATOR (**THOMAS & COOMBES**)
Altered motor coordination in recurrent low back pain

NIH R21 -R21NS107640 $408,375.00 (Total Cost)
OCTOBER 2019 - JUN, 2021
The first goal in the current application is to determine whether individuals with chronic low back pain show increases in activity in dorsal medial prefrontal cortex and decreases in activity in motor cortex during a reaching task in which they show restricted lumber spine flexion. The second goal in the current proposal is to leverage the VR environment to determine whether manipulating the VR environment to reduce expectations of pain during movement leads to decreased activity in dorsal medial prefrontal cortex, increased activity in motor cortex, and increased lumber spine motion in individuals with CLBP.

PRINCIPAL INVESTIGATOR (**THOMAS**)
NIH R01 Biomarkers for Chronic LBP $2,475,000 (Total Cost)

The proposed research represents a novel adaptation of the fear-avoidance model by determining how key psychological, physiological, and biomechanical mechanisms interact to promote healing or delay recovery from a sub-acute episode of low back pain. This proposal will be conducted by an inter- and multi-disciplinary team leveraging synergies across priority categories in the announcement – Biobehavioral pain; Models of pain; Diagnosis and assessment of pain; Pain management; Epidemiology of pain; Health disparities; and Translational pain research.

PRINCIPAL INVESTIGATOR (**THOMAS**)
NIDILRR RRTC $4,375,000 (Total Cost)

Virginia Commonwealth University's (**VCU**) Center for Rehabilitation Science and Engineering (CERSE), College of Health Professional's Department of Physical Therapy, College of Engineering's Department of Biomedical Engineering, and the School of Medicine's Parkinson's disease Center of Excellence will partner to establish a Rehabilitation Research and Training Center (RRTC) on Health and Function of People with Physical Disabilities. The RRTC, housed in Richmond, VA, will facilitate collaborative research on five studies that target the physical disability subpopulations of Parkinson's disease, spinal cord injury (SCI), low vision or blindness, and fibromyalgia. The overall focus of the studies on these populations is on development and implementation of advanced technologies (e.g., virtual reality, augmented reality) to reduce disability across patient subpopulations.

Funded (Completed)

PRINCIPAL INVESTIGATOR (**THOMAS**)
Identifying and modifying brain based markers of restricted movement in chronic low back pain
NIH R01 -HD045512-01 $1,550,000 (Total Cost)
JUL, 2004 - MAY, 2010

The aims of this grant are to determine the roles of motor coordination and kinesiophobia in recurrent low back pain. There are two primary studies in this grant. The first examines the movement patterns of individuals with sub-acute low back pain in the process of recovery. The second study examines movement patterns in individuals who have recovered from an episode of low back pain and follows them for one year to develop prediction models of those most at risk for recurrence of low back pain based on motor coordination and levels of kinesiophobia.

PRINCIPAL INVESTIGATOR (**THOMAS** & FRANCE)
Using an interactive game to reduce fear & increase spine motion in low back pain.
NIH R21 - AR064430-02 $ 408,375.00 (Total Cost)
MAY, 2014 - APR, 2016

We propose a novel approach that manipulates reward and movement feedback in a gaming environment to improve spinal motion and decrease expectation of pain and harm in participants with chronic low back pain and high kinesiophobia.

PRINCIPAL INVESTIGATOR (CLARK, **THOMAS** & WILLIAMS)
Assessment of segmental vertebral motion characteristics of lumbar vertebrae
American Osteopathic Association $100,000 (Total Cost)
SEP, 2013 - AUG, 2015

The worked proposed in this application will permit us to develop an innovative technique to assess *in vivo* segmental vertebral motion. Specifically, we will establish the reliability of the technique and provide proof-of-concept that we can quantify and detect physiologically relevant changes in spine motion patterns.

PRINCIPAL INVESTIGATOR (CLARK & **THOMAS**)
Neuromuscular mechanisms of manipulative treatment in low back pain
American Osteopathic Association $94,000 (Total Cost)
SEP, 2011- MAR, 2014
The goal of this project is to determine the neurophysiologic effects of single treatment session of non-impulse manual therapy in patients with chronic low back pain.

PRINCIPAL INVESTIGATOR (CLARK & **THOMAS**)
Mechanisms of impaired postural control in MdDS

MdDS Balance Disorder Foundation $49,455(Total Cost)
JUL, 2012 - DEC, 2014

The goal of this work is to 1) characterize impairments in sensory, motor, and/or central adaptive impairments to balance control in patients with MdDS, and 2) determine if patients with MdDS exhibit a mismatch in corticospinal excitability, visual cortex excitability, reticulospinal excitability, and interhemispheric inhibition.

CO-INVESTIGATOR (**THOMAS**)
Intracortical mechanisms of muscle weakness.
NIH R15 - HD065552-01 $426,125 (Total Cost)
APR, 2010 - MAR, 2013

The goal of this project is to determine the effects of cast immobilization and aging on changes in cortical properties assessed using transcranial magnetic brain stimulation, and examine the relationships between these intracortical properties and those of muscle function (e.g., muscle strength).

CO-INVESTIGATOR (**THOMAS**)
Neurophysiological effects of manipulative treatment on individuals with sub-acute low back pain.
Osteopathic Heritage Foundation $86,578 (Total Cost)
JAN, 2010 - DEC, 2010

The primary aims of this grant are to refine our techniques for assessing the neurophysiological effects of spinal manipulation in low back pain patients and to collect pilot data to support a grant application to NCCAM for a larger clinical trial on manipulation.

<u>INTRAMURAL GRANTS:</u>

PRINCIPAL INVESTIGATOR (**THOMAS**)
3D Forward Dynamic Modeling of Full Body Reaching Movements
Ohio University Post-Doctoral Fellowship Program $25,000 (Total Cost)
JUL, 2006 - JUN, 2007

This award allowed for the hiring of a post-doctoral fellow to develop a full body dynamic model of the full-body reaching tasks.

PRINCIPAL INVESTIGATOR (**THOMAS**)
Load versus position in chronic low back pain
CHHS Scholarly Activity Award $6,549 (Total Cost)
JUL, 2002 - JUN, 2003

This pilot study was designed to test if participants avoid specific positions or specific

loading of the spine in full-body reaching tasks.

PRINCIPAL INVESTIGATOR (**THOMAS**)
The effects of low back pain on coordinated movements
Ohio University Baker Award $10,000 (Total Cost)
JUL, 2001 - JUN, 2002
This award allowed for further testing of the full-body reaching paradigm in participants with chronic low back pain and high levels of fear avoidance behavior.

PRINCIPAL INVESTIGATOR (**THOMAS**)
The effects of low back injuries on coordinated movement
Ohio University Research Committee $6,400 (Total Cost)
JAN, 2000 - DEC, 2000

A pilot study to examine if the full body reaching paradigm developed in dissertation is sensitive to changes in motor coordination strategies in participants with chronic LBP.

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Applegate ME, France CR, Russ DW, Leitkam ST, **Thomas JS**, (2019)Sørensen test performance is driven by different physiological and psychological variables in participants with and without recurrent low back pain. J Electromyogr Kinesiol. 2019 Feb;44:1-7. doi: 10.1016/j.jelekin.2018.11.006. Epub 2018 Nov 9.

Applegate ME, France CR, Russ DW, Leitkam ST, **Thomas JS**. Determining Physiological and Psychological Predictors of Time to Task Failure on a Virtual Reality Sørensen Test in Participants With and Without Recurrent Low Back Pain: Exploratory Study. JMIR Serious Games. 2018 Sep 10;6(3):e10522. doi: 10.2196/10522.

France CR, **Thomas JS** (2018). Virtual immersive gaming to optimize recovery (VIGOR) in low back pain: A phase II randomized controlled trial. Contemp Clin Trials. 2018 Jun;69:83-91. Epub 2018 May 3.PMID: 29730393

Clark BC, Russ DW, Nakazawa M, France CR, Walkowski S, Law TD, Applegate M, Mahato N, Lietkam S, Odenthal J, Corcos D, Hain S, Sindelar B, Ploutz-Snyder RJ, **Thomas JS** (2018). A randomized control trial to determine the effectiveness and physiological effects of spinal manipulation and spinal mobilization compared to each other and a sham condition in patients with chronic low back pain: Study protocol for The RELIEF Study. Contemp Clin Trials. 2018

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Russ DW, Ross AJ, Clark BC, **Thomas JS** (2018). The Effects of Task Type on Time to Task Failure During Fatigue: A Modified Sørensen Test. J Mot Behav. 2018 Jan-Feb;50(1):96-103. PMID: 28350240

Leitkam S, Applegate M, **Thomas JS**.(2017) Full-body Reaching Assessment of Fitts' Law in a Virtual Environment. IEEE Proceedings: International Conference on Virtual Rehabilitation. In Press, 2017

Mahato NK, Montuelle S, Goubeaux C, Cotton J, Williams S, **Thomas J**, Clark BC.(2016). Quantification of intervertebral displacement with a novel MRI-based modeling technique: Assessing measurement bias and reliability with a porcine spine model. Magn Reson Imaging. 2016 Dec 24;38:77-86. doi:10.1016/j.mri.2016.12.022. [Epub ahead of print] PMID: 28027908

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Thomas JS, France CR, Applegate ME, Leitkam ST, Walkowski S (2016). Feasibility and Safety of a Virtual Reality Dodgeball Intervention for Chronic Low Back Pain: A Randomized Clinical Trial. J Pain. 2016 Sep 8. pii: S1526-5900(16)30206-1. doi: 10.1016/j.jpain.2016.08.011. [Epub ahead of print]. PMID:27616607

Thomas JS, France CR, Leitkam ST, Applegate ME, Walkowski S (2016). Effects of Visual Display on Joint Excursions Used to Play Virtual Dodgeball. JMIR Serious Games. 2016 Sep 15;4(2):e16. doi: 10.2196/games.6476.PMID: 27634561

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Mahato, NK, Montuelle, S Cotton J Williams, S, **Thomas JS**, Clark BC (**2016)** Development of a Morphology-based Modeling Technique for Tracking Solid-Body Displacements: Examining the Reliability of a Potential MRI-only Approach for Joint Kinematics Assessment. BMC Medical Imaging. 2016 May 18;16(1):38. doi: 10.1186/s12880-016-0140-1.

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ABSTRACTS AND CONFERENCE PROCEEDINGS:

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Mcfadden K, Russell L, Hong L, Nakazawa M, **Thomas JS.** (2014) Effects of age and fear cognitions on motor behavior in a step and reach task with varying support surface conditions. Program No. 251.25/JJ35. Neuroscience Meeting Planner. Washington, DC: Society for Neuroscience, 2014. Online

Brown L, Banks H, Mahato N, Clark BC, Walkowski S, **Thomas JS**. (2014)The Influence of a Muscle Energy Treatment Session on Trunk Muscle Activity in Participants with Chronic Low Back Pain. . APTA Combined Sections Meeting, Las Vegas NV, February 2014.

Thomas JS, Hong SL, Nakazawa W, Clark BC. (2013). Visual information and postural control deficits in patients with mal de debarquement syndrome. Program No. 649.18/SS2. Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2013. Online

Willy RW, Clark BC, Ossim MA, **Thomas JS**. (2013)Frontal plane walking mechanics and hip strength in college-aged individuals who are post-medial meniscectomy. Presented at the 60th American College of Sports Medicine annual meeting, Indianapolis, May 2013

Wilson TE, LePorte AD, Toma K, **Thomas JS**, Clark BC. (2013) Autonomic Reflexes May Contribute to the Symptomatology of Mal de Debarquement Syndrome. FASEB J, 27:1118.40, 2013.

Thomas JS, France CR, Hong, SL, Lavender S. (2013) Variability in Hip-Spine Coordination in Low Back Pain Recurrence. European Pain Federation EFIC, Florence Italy, October 2013.

Ross AJ, Linsenmayer M, Walkowski S, Clark BC, **Thomas JS**. (2013) Movement Analysis Pre- and Post-Acute Onset of Low Back Pain. APTA Combined Sections Meeting, San Diego CA, February 2013.

Mace SJ, Becker JT, Stidd BJ, Guiden TA, Horstman AM, **Thomas JS.** (2013) The Effect of Pelvic Constraint on Joint Movements of the Thoracic and Lumbar Spine During Reaching Tasks. APTA Combined Sections Meeting, San Diego CA, February 2013.

Huls ME, Peters E, Oberst SR, Wall CM, **Thomas JS.**(2013) The Effect of Hip Position and Lower Extremity Stabilization on Peak Trunk Flexion Force and Activation of the Abdominal and Hip Flexor Muscles. APTA Combined Sections Meeting, San Diego CA, February 2013.

Oberst SR, Wall CM, **Thomas JS**. (2013) Load type on time-to-task failure on the trunk flexors. APTA Combined Sections Meeting, San Diego CA, February 2013.

Oberst SR, Wall CM, **Thomas JS**. (2012) The effects of load type on time-to-task failure on the trunk flexors. Program No. 478.13. 2012 Neuroscience Meeting Planner. New Orleans, LA: Society for Neuroscience, 2012. Online.

ROSS AJ, Motter S, Linsenmayer M, Pickett R, Cowen J, Russ, DW, Clark BC, **Thomas JS**. (2012) The effects of test position and load type on time to task failure and median power frequency of the trunk extensors**.** APTA Combined Sections Meeting, Chicago, IL, February 2012.

Linsenmayer M, Ross AJ, Corbett M., Schwing T, Walkowski S, Clark BC, Goss D, **Thomas JS**. (2012) Effects of spinal manipulation on peak loading and trunk displacement during unanticipated trunk perturbations of participants with and without chronic low back pain. APTA Combined Sections Meeting, Chicago, IL, February 2012.

Ross A, Motter S, Russ DW, Clark BC, **Thomas JS** (2011).The effects of test position and load type on time to task failure in the trunk extensors Program No. 812.14/RR29. Neuroscience Meeting Planner. Washington, DC: Society for Neuroscience, 2011. Online

Clark, BC, **Thomas JS**, Russ DW, Hoffman RL, Manini TM, Yue GH, and Taylor JL

(2011). Neurological contributors to muscle weakness associated with aging and disuse. The Geronotologist.

Goss, DA, **Thomas** JS, Walkowski S, Licciardone JC, Yue GH, and CLARK BC(2011). Neurophysiologic effects of non-impulse manual therapy in patients with chronic low back pain. Journal of the American Osteopathic Association.

Clark, BC, Goss DJ, Walkowski S, Hoffman RL, Ross A, and **Thomas JS** (2011). Neurophysiologic effects of spinal manipulation in patients with chronic low back pain. Medicine and Science in Sports and Exercise.

Motter S, Clay M, Eaton A, Kramer S, Russ DW, Clark BC, **Thomas JS**. (2011).Time to task failure of trunk extensors in force versus position matching tasks using a modified Sorensen protocol. APTA Combined Sections Meeting. New Orleans, LA.

Trost, Z., France, C.R., & **Thomas, J.S.** (2011). Pain-related Fear Impacts Movement in the Context of Experimentally Induced Pain**.** *Psychosomatic Medicine.*

Thomas J, Ross R, Russ DW, Clark BC, Cowen J, Pickett R, Linsenmayer M. (2010) Trunk muscles respond to task specific fatigue in an opposite manner as appendicular muscles Program No. 381.5. Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2010. Online

Johnson E, McCallum A, Sabo B, **Thomas JS**. (2010). Does Hip Flexibility Influence Lumbar Spine and Hip Joint Excursions during Forward Bending and Reaching Tasks. APTA Combined Sections Meeting. San Diego, CA.

McCallum A, Johnson E, Sabo B, Motter S, **Thomas JS**. (2010). The Effect of Initial Posture on The Performance of Multi-Joint Reaching Tasks: A Comparison of Joint Excursions Between Individuals With and Without Chronic Low Back Pain. APTA Combined Sections Meeting. San Diego, CA.

Clark BC, Taylor JL, Dearth DJ, Hoffman RL, **Thomas JS**. (2010.)State-dependent adaptations in cortical excitability following 3 weeks of cast immobilization. APTA Combined Sections Meeting. San Diego, CA.

Goss, DA, Walkowski S, Ross AJ, **Thomas JS**, and CLARK BC (2010). Effect of spinal manipulation on corticospinal and stretch reflex excitability in patients with chronic low back pain. Journal of the American Osteopathic Association.

Damron LA, Dearth DJ, **Thomas JS**, Taylor JL, Hoffman RL, Clark. (2010). Cast immobilization decreases central activation, increases spinal excitability and reduces Ia synaptic transmission. APTA Combined Sections Meeting. San Diego, CA.

Trost, Z., France, C.R., & **Thomas, J.S.** (2010, March). Appraisal of movement and kinematic avoidance in high and low fear participants following Delayed Onset Muscle Soreness. Poster presented at the Annual Meeting of the Society for Behavioral Medicine, Seattle, WA.

Trost, Z., France, C.R., Lange, J. & **Thomas, J.S.** (2010, March). Pain-related fear and physical performance following delayed onset muscle soreness. Poster presented at the annual meeting of the American Psychosomatic Society, Portland, OR.

McGinley MP, Hoffman RL, Russ DW, **Thomas JS**, Clark BC. Older adults exhibit more intracortical inhibition and less intracortical facilitation than young adults. Journal of the American Osteopathic Association. 109: 8, 210, 2009.

Lavender SA, Johnson M, **Thomas JS**, France CR. (2009). Are 3-dimensional spine moments indicative of fear of movement by asymptomatic individuals following a LBP episode? In the Transactions of the 55th Annual Meeting of the Orthopaedic Research Society, paper 1811.

Thomas JS, Gustwiller S, Johnson E, Klewer M, McCallum A, Ruggeri, R (2009).The Influence of chronic low back pain on trunk muscle onset latencies in full body reaching tasks APTA Combined Sections Meeting. Las Vegas, NV.

Gustwiller S, Johnson E, Klewer M, McCallum A, **Thomas JS** (2009).The effect of discrete versus cyclic full body reaching tasks on spine and extremity joint excursions. APTA Combined Sections Meeting. Las Vegas, NV.

Ruggeri R, Gustwiller S, Russ D, **Thomas JS** (2009). Characterization of central activation and contractile properties of lumbar extensor muscles. APTA Combined Sections Meeting. Las Vegas, NV.

Klewer M, Gustwiller S, Ruggeri R, Johnson E, **Thomas JS** (2009). Lumbar pelvic rhythm in discrete versus cyclic forward bending movements in healthy individuals. APTA Combined Sections Meeting. Las Vegas, NV.

Thomas JS, Gustwiller S, Johnson E, Klewer M, McCallum A, Ruggeri, R (2008). The influence of chronic low back pain on muscle onset latencies in full body reaching tasks. Program No. 671.3, Neuroscience Meeting Planner. Washington, DC: Society for Neuroscience. Online.

Trost Z, France CR, **Thomas JS** (2008). Examination of the Photograph Series of Daily Activities (PHODA) Scale in chronic low back pain patients with high and low kinesiophobia. Poster presented at the annual meeting of the Midwest Pain Society, Chicago, IL.

Trost Z, France CR, **Thomas JS,** Lavender SA, Johnson M. (2008). Fear impacts movement at the chronic and subacute stages of back pain. Poster presented at

the annual meeting of the Association of Psychological Science, Chicago, IL.

Thomas JS, Swank KA, Sha D, France CR (2008). The influence of load on the scaling of dynamic joint torques and segment excursions during bilateral multi-joint reaching tasks. Society for the Neural Control of Movement. Naples FL.

Thomas JS, France CR, Lavender SA, Johnson M (2008). The Effects of Kinesiophobia on Spinal Motion Parameters following Recovery from an Episode of Low Back Pain. APTA Combined Sections Meetings. Nashville, TN.

Thomas JS, France CR (2007). The relationship between pain-related fear and lumbar flexion during natural recovery from low back pain. Program No. 291.2, Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience.

Vander Wiele, NJ, France CR, Sha D, **Thomas, JS** (2007). The influence of kinesiophobia on motor behavior in multi-joint reaching tasks. Program No. 818.11, Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience.

France CR, **Thomas JS** (2007). Pain-related fear is associated with avoidance of spinal motion. The Journal of Pain, 8, S65.

Trost Z, **Thomas JS**, France CR (2007). Kinesiophobia and generalization following exposure to movement in chronic back pain. The Journal of Pain, 8, S54.

Trost Z, France CR, **Thomas JS** (2007). Kinesiophobia predicts future disability in subacute low back pain. Annals of Behavioral Medicine, 33, S183.

Thomas JS, Sha D, France CR, Swank KA (2007). The influence of self-reported levels of disability on trunk muscle activity in participants with chronic low back pain performing maximum effort isometric trunk exertions. APTA Combined Sections Meetings. Boston, MA.

Thomas JS, Moenter SL, Vander Wiele NJ, France CR, Sha D (2007). The influence of chronic low back pain on the spine and hip joint excursions and joint torques during forward bending tasks. APTA Combined Sections Meetings. Boston, MA.

Swank KA, Sha D, France CR, **Thomas JS** (2007). The influence of load on joint excursion and joint torque during bilateral multi-joint reaching tasks. APTA Combined Sections Meetings. Boston, MA.

Kochman CE, Sha D, France CR, Clagg S, **Thomas JS** (2007). The effect of load and target height on EMG activation of the abdominals and paraspinals in multi-joint reaching. APTA Combined Sections Meetings. Boston, MA.

Thomas JS, Sha D, France CR, Swank KA, Kochman CE (2006). The influence of chronic low back pain on joint kinematics in multi-joint reaching movements with various loads. Program No. 451.7, Neuroscience Meeting Planner. Atlanta, GA: Society for Neuroscience.

Vander Wiele NJ, Moenter SL, Sha D, France CR, **Thomas JS** (2006). The influence of movement speed and handedness on the expenditure of potential and kinetic energy in full body reaching movements Program No. 742.16, Neuroscience Meeting Planner. Atlanta, GA: Society for Neuroscience.

Thomas JS, Sha D, Moenter SL, Vander Wiele NJ (2006). Time scaling of peak kinetic energy in full body reaching tasks. The Neural Control of Movement Society Meeting. Key Biscayne, Florida

Trost Z, France CR, **Thomas JS** (2006). Exposure to Movement in Chronic Back Pain: Fear Impacts Expectation and Experience. Association for Psychological Science, New York, NY.

Vander Wiele NJ, Moenter SL, **Thomas JS** (2006). Anticipatory changes in center of mass and center of pressure in full body reaching tasks. APTA Combined Sections Meetings. San Diego, CA.

Moenter SL, Vander Wiele NJ, Sha D, France CR, **Thomas JS** (2006). The influence of reaching hand on the postural joint excursions during full body reaching tasks. APTA Combined Sections Meetings. San Diego, CA.

Dickinson EL and **Thomas JS** (2006). The effects of training on the spine-hip ratio in dancers during a reaching task. APTA Combined Sections Meetings. San Diego, CA.

Gibson GE and **Thomas JS** (2005). Timing of spine and Hip Motions during Full body reaching tasks. APTA Combined Sections Meetings. New Orleans, LA.

Corcos D M, Johansson JL, Portra V, Gottlieb GL, **Thomas JS**, Shemmell J (2005). Effect of walking speed on coordination of gait: A PCA approach. Journal of Sport and Exercise Psychology, 27 (Suppl.), S53.

Warnock AR, Reno ES, **Thomas JS** (2004). Movement Patterns of female soccer players with and without a history of ACL injury. Program No. 415.2 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience.

Gibson GE , **Thomas JS** (2004). Timing of spine and Hip Motions during Full body reaching tasks. Ohio Physical Therapy Association Fall Meeting.

Thomas JS, Corcos DM, Hasan Z (2003). Does the linear synergy hypothesis generalize beyond the shoulder and elbow in multi-joint reaching movements?

Program No 492.17 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience.

Thomas, JS, France, CR (2003). Performance of reaching tasks in individuals with and without a history of low back pain. *Psychosomatic Medicine,65(1)*, A75.

Thomas JS (2002). The influence of chronic back pain on kinematic rules underlying multi-joint reaching movements. Program No. 767.13 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience.

Cotrell JE, Shupe HM, Kinnison KA, **Thomas JS** (2002). The effects of gender, movement speed, and target height on the coupling of spine and hip motions during a full body reaching task. APTA Combined Sections Meetings. Boston MA.

Thomas M, Lahne RS, **Thomas JS** (2002). The effects of movement speed on multi-joint reaching tasks in typically developing children. APTA Combined Sections Meetings. Boston MA.

Thomas JS, Cottrell JE. (2001) The effect of movement speed on segment excursions in multi-joint reaching movements. Program #302.7.Society for Neuroscience Abstracts. Vol 27

Thomas JS, Corcos DM, Hasan Z (2000). Kinematic rules underlying multi-joint reaching movements. Society for Neuroscience Abstracts, Vol 26 Part 2, 1719.

Corcos DM, **Thomas JS**, Hasan Z (2000). Kinetic rules underlying multi-joint reaching movements. Society for Neuroscience Abstracts, Vol 26 Part 2, 1719.

Thomas JS, Corcos DM, Hasan Z (2000). Segmental coordination for a simple reaching task. New Orleans, Louisiana. Physical Therapy, 80:S66.

Thomas JS, Corcos DM, Hasan Z (2000). A regression model to predict segment orientations in simple reaching tasks. APTA Combined Sections Meeting, New Orleans, Louisiana.

Lavender, SA, Shakeel, K, **Thomas, JS**, Andersson, GBJ (1999). The effects of pre-load during “expected” and “unexpected” sudden loading. International Society for the Study of the Lumbar Spine: Abstracts, Number 154A.

Thomas JS, Corcos DM, Hasan Z (1999). The effects of movement speed on the horizontal component of ground reaction force and kinematic patterns during a reaching task. Progress in Motor Control-II: Structure-Function Relations in Voluntary Movements.

Thomas JS, Corcos DM, Hasan Z. (1999). The effect of movement speed on postural

joint kinematics and ground reaction force during a reaching task. APTA Combined Sections Meeting, Seattle, Washington.

Lavender, S.A., Shakeel, K, Andersson, GBJ, **Thomas, JS** (1999). Does a lifting belt reduce the spine moments during sudden unexpected loading? Transactions of the 45th Annual Meeting Orthopaedic Research Society, Anaheim, California, No. 266.

Thomas JS, Corcos DM, Hasan Z (1998). Gender differences in lumbar and hip motion during reaching tasks. Physical Therapy, 78:S68.

Lavender SA, Shakeel K, **Thomas JS**, Andersson GBJ (1998). Does a lifting belt protect the spine during sudden unexpected loading? In the Proceedings of the Human Factors and Ergonomics Society 42nd Annual Meeting, pp. 911.

White LJ, **Thomas JS**. (1997) Reliability of a low back classification system. Physical Therapy, 77: S8.

Thomas JS, Lavender SA, Corcos DM, Andersson GBJ (1997). Trunk kinematics and trunk muscle activity during a suddenly applied load. Physical Therapy, 77:S29.

Thomas JS, Corcos D, Hasan Z. (1997). Gender differences in lumbar and hip motion during reaching tasks. University of Illinois at Chicago College of Associated Health Professions 19th Annual Research Forum.

Thomas JS, Lavender SA, Corcos DM, Andersson GBJ. (1996). The effect of lifting belts on trunk muscle activity during a suddenly applied bending moment. Physical Therapy, 76:S81.

Lavender SA, **Thomas JS**, Corcos, DM, Andersson GBJ (1996). Lifting belts and trunk muscle electromyographic activity during sudden unexpected loading. International Society for the Study of the Lumbar Spine: Abstracts, no. 173.

Thomas JS, Lavender SA, Corcos DM, Andersson GBJ. (1996). The effect of lifting belts on trunk muscle activity during a suddenly applied bending moment. University of Illinois at Chicago College of Associated Health Professions 18th Annual Research Forum.

Lavender, SA, Andersson, GBJ, **Thomas, JS**, Corcos, DM (1996). The effectiveness of liftingbelts in controlling trunk muscle electromyographic activity during sudden unexpected loading. 1996 American Industrial Hygiene Conference and Exposition Abstracts, No. 58, pg 12.

Lavender, SA, **Thomas, JS**, Chang, D, Andersson, GBJ (1994). The effect of lifting belts on trunk motions. In F. Aghazadeh (ed.) Advances in Industrial Ergonomics and Safety VI, 667-670.

Lavender, S., Thomas, JS, Chang, D, Andersson, GBJ (1994). The effects of lifting belts on trunk motions. International Society for the Study of the Lumbar Spine: Abstracts, no. 114.

Thomas JS, Delitto A. (1993). Comparison of two types of distal tibial fixation in testing knee extension isokinetically. Physical Therapy, 73:S11.

TEACHING:

Ohio University School of Rehabilitation and Communication Sciences Division of Physical Therapy

Spring Semester 2013-2015: PT 7130 Clinical Sciences III. This is a 3-hour course provides students with an overview of topics from a cellular to a systems level. Gastrointestinal, genitourinary, hepatobiliary, renal, endocrine, and metabolic systems will be covered. Additionally, the role of physical therapy in acute care and the Intensive Care Unit (ICU) will be covered. For each topic area or system, the student will be presented with the pathophysiology focused at the cellular and tissue level. The role of physical therapists in differential diagnosis, by recognizing the signs and symptoms associated with impairments of the systems, will be presented.

Fall Quarter 2007-2011: PT 850 Management of Aging. This is a 4-hour course designed to prepare the student to identify current theories of aging. Changes in the physical, psychological, and sociocultural aspects, as well as the nutritional and physical demands will be examined from adolescence through old age. Emphasis will be placed on the aging adult and specifically on the needs of the elderly patient. Amputations, including pre and post-operative care, and various prosthetic devices and assessment will also be covered.

Fall Quarter 1999-2002: Course Instructor PT 501 Functional Anatomy. This is a 3-hour course that introduces students to elements of joint structure and function. Students learn basic biomechanics, and begin to develop joint palpation skills.

Fall Quarter 2003: Course Instructor PT 776 Manual Therapy I. This is a 3-hour course that teaches students advanced joint mobilization skills for the peripheral joints. The students are also taught how to perform manipulations of the peripheral joints.

Winter Intersession 2011-2012: Course Instructor PT 740 Statistics. This is a 3-hour course that introduces students to evidence based practice. In 2012 it will be combined with PT 741 in a 4 hour course on statistics for physical therapy students.

Winter Intersession 2002; Spring Quarter 2009-2012: Course Instructor PT 741 Multivariate Statistics. This is a 3-hour course that introduces students to multivariate statistical methods with a particular emphasis on the practical application and interpretation of multivariate procedures.

Winter Quarter 2008-2012: PT 862 Synthesis Seminar. This is a 2-hour course that incorporates skills and knowledge from multiple disciplines as well as from previous and concomitant courses, including legal, ethical and reimbursement issues in context of the treating the complex patient. This seminar uses case-based learning to hone the student's ability to evaluate, diagnose, and plan treatment strategies for a variety of pathologies.

Winter Quarter 2000-2003: Course Instructor PT 525 Evaluation and Case Studies. This is a 3-hour course that introduces students to issues of critical thinking, examination strategies, and basic clinical measurement skills.

Winter Quarter 2004: Course Instructor PT_777 Manual Therapy II. This is a 3-hour course that teaches students advanced joint mobilization skills for the vertebral joints. This second course in the series also emphasizes the development and use of manipulation procedures for the spinal joints.

Spring Quarter 2007: 2012 Course Instructor PT 864 Differential Diagnosis II. This is a 3-hour course in which students develop advanced skills in taking histories of individuals with complex medical problems. In this course we cover signs and symptoms arising from disorders of the hematologic system, immune system, and endocrine system. Additionally, we address signs and symptoms associated with oncologic diseases.

Spring Quarter 2000-2007: Course Instructor PT 765 Physical Agents. This is a 3-hour laboratory course in which students are introduced to the theoretical foundations for the applications of thermal and electrophysiological agents used in physical therapy practice. The students also gain proficiency in the application of these physical agents in case based laboratory sessions.

Spring Quarter 2003-2007, Summer 2017: Course Instructor PT 763 Bioinstrumentation. This is a 3-hour laboratory course in which students are introduced to fundamentals of Bioinstrumentation. There is a particular emphasis on 1) how real world events (e.g. force, pressure, temperature) are converted into voltages through the use of transducers 2) how analog voltages are converted to digital signals, and 3) how digital signals are processed. Additionally, they are introduced to all aspects of measuring human bioelectrical potentials (e.g. EMG, EKG).

Summer Session 2003: Course Instructor PT 864 Differential Diagnosis II. This is a 3-hour course in which students develop advanced skills in taking histories of individuals with complex medical problems. In this course we cover signs and symptoms arising from disorders of the hematologic system, immune system, and endocrine system. Additionally, we address signs and symptoms associated with oncologic diseases.

Summer Session 2004: PT 794R Workshops in Physical Therapy: Ankle Foot Biomechanics. This was a 2-hour elective seminar class for students in the DPT

program. In this class students were taught advanced skills in foot biomechanics and learned how to fabricate accommodative and biomechanical orthotics.

Seminar Papers /Capstone Experience

Andrew Ross, Richard Pickett, Jeff Cowen (Physical Therapy-DPT, faculty research advisor). ”The effects of test position and load type on time to task failure and median power frequency of the trunk extensors”, 2012**.**

Matt Linsenmayer, Malissa Corbett, Terry Schwing (Physical Therapy-DPT, faculty research advisor).”Effects of spinal manipulation on peak loading and trunk displacement during unanticipated trunk perturbations of participants with and without chronic low back pain”, 2012.

Saundra Motter, Michael Clay, Andrew Eaton, Stephen Kramer (Physical Therapy-DPT, faculty research advisor)”Time to task failure of trunk extensors in force versus position matching tasks using a modified Sorensen protocol”, 2011.

Erica Johnson, Ashley McCallum and Brian Sabo (Physical Therapy-DPT, faculty research advisor).” Does Hip Flexibility Influence Lumbar Spine and Hip Joint Excursions during Forward Bending and Reaching”, 2010.

Rachel Ruggeri “Characterization of central activation and contractile properties of lumbar extensor muscles”, 2009.

Stephanie Gustwiller (Physical Therapy-DPT, faculty research advisor) “The effect of discrete versus cyclic full body reaching tasks on spine and extremity joint excursions”, 2009

Michele Klewer (Physical Therapy-DPT, faculty research advisor) “Motor behavior in cyclic versus discrete forward bending movements in healthy individuals”, 2009

Alison Kelly, Lauren Wagner (Physical Therapy-DPT, faculty research advisor) “The effect of chronic low back pain on lumbar stability in unstable sitting”, 2008.

Kevin Swank (Physical Therapy-DPT, faculty research advisor) “The effect of inertial load on movement coordination in whole-body reaching tasks”, 2008.

Candace Kochman (Physical Therapy-DPT, faculty research advisor) “The effect of load and height on EMG activation of the abdominal and paraspinal muscles in multi-joint reaching”, 2008.

Sarah Clagg (Physical Therapy-DPT, faculty research advisor) “Kinetic analyses of maximal effort soccer kicks in elite female athletes”, 2008.

Nicole J. Vander Wiele (Physical Therapy-DPT, faculty research advisor)

"Anticipatory changes in Center of mass and Center of pressure in full body reaching tasks",2007.

Stacey Moenter (Physical Therapy-DPT, faculty research advisor) "The Influence of reaching hand on the postural joint excursions during full body reaching tasks", 2007.

Erica Dickenson (Physical Therapy-DPT, faculty research advisor) "The influence of dance training on the timing and coordination of the spine and hip joints",2006.

Gary Gibson (Physical Therapy-DPT, faculty research advisor) "Timing and coordination of spine and hip joints during reach and return movements", 2005.

Angela Warnock, Elizabeth Reno (Physical Therapy-MPT, faculty research advisor), "Relationships between a history of anterior cruciate ligament injury and motor coordination strategies in maximum effort soccer kicks of female soccer players", 2004.

Daryl Zaylor (Physical Therapy-MPT, faculty research advisor) "The influence of dance training on the organization of multi-joint reaching tasks", 2003.

Melissa Thomas, Rebecca Lahne (Physical Therapy-MPT, faculty research advisor), "The effect of movement speed on multi-joint reaching tasks in typically developing children", 2002.

Johnna Cottrell, Haley Shupe, Kasey Kinnison, (Physical Therapy-MPT, faculty research advisor) "The effects of gender, movement speed, and target height on the coupling of spine and hip motions during a full body reaching task", 2002.

Senior Design Projects for Electrical Engineering Students

Perrier Paul, Josh Burwell, Seana McNeal, Adam Kristanc (Electrical Engineering- BS, project coordinator) "Optical Detection Circuit", 2005-2006.

Nick Kiser, Mark Abel, Jason Hoffman, Will Hardy (Electrical Engineering-BS, project coordinator) "3-D Robotic Controller", 2003-2004.

Mike Lawson, Saleh Almekbel, Saurabh Singh (Electrical Engineering-BS, project coordinator). "3-D Target Control System", 2002-2003.

Kristopher Onderko, Mathew Thomason, Mark Gregg (Electrical Engineering-BS, project coordinator) "2-D Laser Target System", 2001-2002.

Dissertations

Megan Applegate (Individual Interdisciplinary Program), Thesis Chair, "The

Physiological and Psychological Predictors of Performance on the Sørensen Test and a Virtual Reality Sørensen Test in Individuals with and without Recurrent Low Back Pain", 2018 **Role-Thesis Chair**

Alexander Stamenkovic (University of Wollongong, Australia, PhD), External Reviewer)."On the role of posture in the control of balance and preparation of movement: understanding intermuscular and inter-segmental coordination during reaching", 2018 **Role- External Reviewer**

Martin Tanaka (Biomedical Engineering Virginia Tech- PhD, External committee member), "Biodynamic analysis of human torso stability using finite time lyapunov exponents", 2008. **Role- External Committee Member**

Jesse Stewart (Psychology- PhD, committee member), "Neuropsychological performance during endogenous baroreceptor stimulation in individuals at varying risk for hypertension", 2003. **Role- External Committee Member**

Marci Mrykalo (Psychology- PhD, committee member), "Menstrual cycle phase, gender, and catastrophizing in pain perception",2003. **Role- External Committee Member**

University of Illinois at Chicago Department of Physical Therapy

Fall Semester 1998: Course Instructor Kinesiology. This is a 6-hour course, which included sections on biomechanics, bioinstrumentation, muscle physiology, and functional anatomy.

Fall Semester 1992-1998: Lecturer Orthopedics. Lecture topics primarily focused on osteopathic methods for evaluation and treatment of thoracic spine dysfunctions.

Spring Semester 1993 – 1999: Lecturer Therapeutic Exercise I. Lecture topics included 1) instrumented methods of evaluation of muscle performance, 2) evaluation of normal and pathological gait, and 3) evaluation and management of orthotics.
Spring Semester 1994-1999: Lecturer Physical Agents. Lecture topic focused on understanding clinical electromyography and surface EMG.

Spring Semester 1993: Lab Coordinator Physical Agents. As lab coordinator I was responsible for the laboratory portion of the modality course. Responsibilities included obtaining loaner equipment from vendors, scheduling laboratory sessions at University of Illinois Hospital, and giving laboratory practical examinations.

Fall Semester 1992-1993: Lab Assistant Orthopedics. As lab assistant I participated in laboratory instruction of basic orthopedic evaluation and treatment skills.

PRESENTATIONS:

2019 University of Virginia Art and Science of Sports Medicine / McCue Society Annual Symposium “Virtual Reality Interventions for Low Back Pain”, April 12th 2019

XIX Congresso SIAMOC, Florence Italy: “Novel Applications of Virtual Reality Interventions in Rehabilitation” Key Note Speaker October 4, 2018.

State of the Art Review: Virtual Reality for Pain Conditions. International Society for the Study of Pain, Boston, MA September 2018

International Society of Physical Medicine and Rehabilitation (2018) Agreement analysis between Vive and Vicon tracking systems to monitor lumbar postural changes. Paris, France July 2018

Midwestern University, Downers Grove, Illinois “A Novel Virtual Reality Intervention for Chronic Low Back Pain” December 15th, 2017.

University of Florence, Italy: “A Novel Virtual Reality Intervention for Chronic Low Back Pain” September 5th, 2017.

Virginia Commonwealth University: “Virtual Reality in Rehabilitation: What Do I need to Know?” Marquette-Pitt Challenge Fund Raiser February 5th, 2016.

APTA Combined Sections Meeting: “Congratulations, you landed that faculty job! Now What? A promotion and tenure panel discussion and mock dossier review." Las Vegas, Nevada. February 4th, 2014

American Osteopathic Association Annual Meeting: “Measurement issues in Objective Diagnostic and Therapeutic Palpation of the Spine” October 9th 2012.

APTA Combined Sections Meeting: “Fear Avoidance Behavior: A State-of-the-Art Review”. Las Vegas, Nevada. February 11th, 2009

Ohio University College of Osteopathic Medicine: “Normal and Pathomechanics of the Lumbar Spine”. October 7th, 2008.

Ohio University College of Osteopathic Medicine: “Lumbar Spine Stability”. October 9th, 2008.

Ohio University College of Osteopathic Medicine: Roundtable Discussion on Low Back Pain”. October 10th, 2008.

University of Illinois at Chicago: “Mapping Fear Avoidance Behavior to Motor Behavior in Recurrent Low Back Pain”. University of Illinois at Chicago, Chicago, Illinois. April 12th, 2007.

Ohio University Emeriti Association: Pain Related Fear and Low Back Pain”. Ohio

University Inn, Athens, Ohio. April 21st 2005

Toronto East General Hospital: "Clinical Applications and Analysis of Surface EMG". Toronto, Ontario Canada. June, 1997.

Saint Michael's Hospital: "Topics in Shoulder and Elbow Rehabilitation". Toronto, Ontario, Canada. November, 1996.

Mississauga Sports Physical Therapy: "Clinical Applications and Analysis of Surface EMG". Mississauga, Ontario Canada. June, 1995

Frontiers in Neuroscience, Neuroscience Nursing: "The Effectiveness of Lifting Belts in Nursing". Chicago, Illinois. February, 1995.

ESL Seminars: "Review for the Physical Therapy Licensing Exam for Foreign Trained Therapists". Long Island, New York. February, 1995.

ESL Seminars: "Review for the Physical Therapy Licensing Exam for Foreign Trained Therapists". Indianapolis, Indiana. January, 1995.

University of Chicago Physical Therapy Department: "Clinical Applications of Surface EMG" Chicago, Illinois. October, 1994.

American Academy of Physical Medicine and Rehabilitation 56th Annual Conference: "Evaluation and Treatment of Patella Femoral Dysfunction Utilizing the McConnell Taping Technique" Anaheim, California. October, 1994.

American Physical Therapy Association Assessment Center: "The Latest Advancements in Knee Brace Technology", Cape Girardeau, Missouri. May, 1987.

Lido Back Isokinetic Symposium: "Pre-employment Screening, Normative Data, and Future Trends in Isokinetic Trunk Testing" Colorado Springs, Colorado. April, 1987.

COMMITTES AND SERVICE:

School of Physical Therapy

Chair Promotion and Tenure Committee (2005-2006)
Promotion and Tenure Committee (2005-present)
Chair Admissions (2012-2015)
Admissions (2000-present)
Curriculum Committee (2000-2009)
Class Advisor (Class of 2005)

College of Health and Human Services

Faculty Advisory Committee (2002-2004)
Graduate Committee (2002)
Curriculum Committee (2005-2009)
Promotion and Tenure Committee (2005)

University

Chair Committee for Research, Scholarly, and Creative Activity (2008-2009)
Senator- Faculty Senate (2008-2010)
Professional Relations Committee (2008-2010)
Committee for Research, Scholarly, and Creative Activity (2016-2018)
Committee for Research, Scholarly, and Creative Activity (2005-2009)
Committee for Research, Scholarly, and Creative Activity (2000-2003)
Presidential Research Scholar Committee, Social and Behavior Sciences subcommittee (2002)
Departments, Schools and Centers Award Committee (2001)
Student Enhancement Award Committee (2001 - 2008)

GRANT REVIEWER:

National Institutes of Health

Special Review Committee ZRG1 MOSS D05 Orthopedics (Fall 2004)
Special Review Committee ZRG1 MOSS E02 Orthopedics (Summer 2005)
Special Emphasis Panel /Scientific Review Group 2008/05 ZAR1 EHB-H Winter (2008)
Arthritis and Musculoskeletal and Skin Diseases Special Grants Review Committee June 2-3 (2009)
PCCTR review meeting held by the National Center for Complementary and Alternative Medicine (Fall 2009)
Special Emphasis Panel/Scientific Review Group 2010/01 ZAT1 SM (Fall 2009)
Special Emphasis Panel on Chronic Illness and Anxiety ZRG RPHB-Q (Summer 2011)
Nation Center for Complementary and Alternative Medicine Special Emphasis Panel (June 2014)
Nation Center for Complementary and Alternative Medicine Special Emphasis Panel (Oct 2014)
Arthritis and Musculoskeletal and Skin Diseases Special Grants Review Committee (Feb 2015)
Arthritis and Musculoskeletal and Skin Diseases Special Grants Review Committee (June 2015)
Arthritis and Musculoskeletal and Skin Diseases Special Grants Review Committee (Feb 2016)
Motor Function, Speech and Rehabilitation Study Section-MFSR (Feb 2016)
ZRG1 MOSS-V(15) SEP on small business MRS applications (June 2016)

Musculoskeletal Rehabilitation Sciences- MRS (Feb 2017)
Musculoskeletal Rehabilitation Sciences-MRS (Oct 2017)
NCCIH Review for Exploratory Clinical Trials of Mind and Body Interventions Review Meeting (ZAT1 AJT 05) (Dec 2107)
Palliative Care SEP (Feb 2018)
NIAMS Feb (2019)
NIAMS Core Centers for Clinical Research (P30) Review (May 2019)
NIAMS BACPAC Mechanistic Research Center (U19) Review (July 2019)

Dutch Funding Agency

STW Technology Foundation 9-22 (2008)

MANUCSRIPT REVIEWER:

European Journal of Applied Physiology (2009-present)
Ergonomics (2009-present)
Journal of Athletic Training (2009-present)
BMC Geriatrics (2008-present)
Journal of Rehabilitation Medicine (2008-present)
Journal of Biomedical Engineering (2008-present)
Journal of Behavioral Medicine (2007-present)
European Journal of Physical Rehabilitation Medicine (2007-present)
Journal of Rehabilitation Research & Development (2007-present)
Gait & Posture (2006-present)
Clinical Biomechanics (2005-present)
Journal of Electromyography and Kinesiology (2004-present)
Pain (2002-present)
Neuroscience Letters (2002-present)
Journal of Motor Behavior (2001-present)
Journal of Orthopedic and Sports Physical Therapy (2001-present)

APTA

Mentor: APTA mentoring program (2008-present)
PT Abstract Review Committee (2010-2014)