

CURRICULUM VITAE

Noelle G. Moreau, PhD, PT
Associate Professor
Department of Physical Therapy
School of Allied Health Professions
LSU Health Sciences Center
1900 Gravier St., 7th Fl
New Orleans, LA 70112
(504) 568-4291
Nmorea@lsuhsc.edu

Education and Training

- 2008 Postdoc Washington University School of Medicine, St. Louis, MO, Department of Physical Therapy, Movement Science
- 2007 PhD Louisiana State University, Baton Rouge, LA, Department of Kinesiology, Motor Behavior/Biomechanics
- 1996 BS Louisiana State University Medical Center, Shreveport, LA, Physical Therapy

Professional Experience/Employment History

- 2014 Associate Professor, Louisiana State University Health Science Center, Department of Physical Therapy, New Orleans, LA.
- 2012-2014 Assistant Professor, Louisiana State University Health Sciences Center, Department of Physical Therapy, New Orleans, LA
- 2008 Assistant Professor, Medical University of South Carolina, Department of Health Professions, Charleston, SC
- 2007 Post-Doctoral Research Scholar, Washington University School of Medicine, Department of Physical Therapy, St. Louis, MO
- 2002 Louisiana State Board of Regents Doctoral Fellow, Louisiana State University, Department of Kinesiology, Baton Rouge, LA
- 2000-2006 Adjunct Faculty, Louisiana State University Health Science Center, Department of Physical Therapy, Shreveport and New Orleans, LA (2005-2006).
- 2002-2004 Therapy Services Representative, Medtronic, Minneapolis, MN
- 1998-2002 Lead Physical Therapist and Research Therapist, Shriners Hospital for Children, Shreveport, LA
- 1996-1998 Physical Therapist, Tri-State Physical Therapy Rehab, Acute, and Outpatient Services, Shreveport, LA

Certification/Licensure

2012 Louisiana Board of Physical Therapy Examiners. License #03257
2008-2012 South Carolina Board of Physical Therapy Examiners. License #5851
1996 Louisiana Board of Physical Therapy Examiners. License #03257

Professional Organization Memberships

2012-present Louisiana Physical Therapy Association (LPTA)
2008-2012 South Carolina Physical Therapy Association (SCAPTA)
2007-present American Academy of Cerebral Palsy and Developmental Medicine (AACPDMD)
2004-present APTA Section on Pediatrics
1996-present American Physical Therapy Association (APTA)
1996-2008 Louisiana Physical Therapy Association (LPTA)
1999-present Gait and Clinical Movement Analysis Society (GCMAS)

Publications

Book Chapters

Moreau, N. G. Muscle structural adaptation in cerebral palsy and relationship to function. In Ramey, S., Coker-Bolt, P., & DeLuca, S. (Eds.), *A Handbook of Pediatric Constraint-Induced Movement Therapy (P-CIMT): A Guide for Occupational and Physical Therapists, Researchers, and Clinicians*. Bethesda, MD: American Occupational Therapy Association Press; 2013.

Refereed Journal Articles

Coker-Bolt, P., Woodbury, M., Perkel, J., Moreau, N. G., Hope, K., Brown, T., Ramakrishnan, V., Mulvihill, D., Jenkins, D. (in press). Identifying premature infants at high and low risk for motor delays using motor performance testing and MRS. *Journal of Pediatric Rehabilitation Medicine*.

Moreau, N. G., Holthaus, K., & Marlow, N. (2013). Differential adaptations of muscle architecture to high-velocity versus traditional strength training in cerebral palsy. *Neurorehabil. Neural Repair*, 27, 325-334

Martin, A., Johnson, L., Coker-Bolt, P., Moreau, N., Perkel, J., Jenkins, D. (2013). A case exploration of early motor delays and early intervention for an extremely premature infant. *Journal of Occupational Therapy, Schools & Early Intervention*, 6, 14-22.

Dew, A. P. & Moreau, N. G. (2012). A comparison of 2 techniques for measuring rectus femoris muscle thickness in cerebral palsy. *Pediatr. Phys. Ther.*, 24, 218-222.

- Moreau, N. G., Falvo, M. J., & Damiano, D. L. (2012). Rapid force generation is impaired in cerebral palsy and is related to decreased muscle size and functional mobility. *Gait Posture*, *35*, 154-158.
- Moreau, N. G., Simpson, K. N., Teefey, S. A., & Damiano, D. L. (2010). Muscle architecture predicts maximum strength and is related to activity levels in cerebral palsy. *Phys.Ther.*, *90*, 1619-1630.
- Moreau, N. G., Li, L., Geaghan, J. P., & Damiano, D. L. (2009). Contributors to fatigue resistance of the hamstrings and quadriceps in cerebral palsy. *Clin.Biomech.(Bristol, Avon.)*, *24*, 355-360.
- Moreau, N. G., Teefey, S. A., & Damiano, D. L. (2009). In vivo muscle architecture and size of the rectus femoris and vastus lateralis in children and adolescents with cerebral palsy. *Dev.Med.Child Neurol.*, *51*, 800-806.
- Damiano, D. L. & Moreau, N. (2008). Muscle thickness reflects activity in CP but how well does it represent strength? *Dev.Med.Child Neurol.*, *50*, 88.
- Moreau, N. G., Li, L., Geaghan, J. P., & Damiano, D. L. (2008). Fatigue resistance during a voluntary performance task is associated with lower levels of mobility in cerebral palsy. *Arch.Phys.Med.Rehabil.*, *89*, 2011-2016.
- Moreau, N., Li, L., & Damiano, D. L. (2008). A feasible and reliable muscle fatigue assessment protocol for individuals with cerebral palsy. *Pediatr.Phys.Ther.*, *20*, 59-65.
- Moreau, N., Tinsley, S., & Li, L. (2005). Progression of knee joint kinematics in children with cerebral palsy with and without rectus femoris transfers: a long-term follow up. *Gait.Posture.*, *22*, 132-137.

Invited Papers

- Moreau, N.G., Gannotti, M. (submitted). Addressing Muscle Performance Impairments in Cerebral Palsy: Implications for Upper Extremity Resistance Training. *J Hand Therapy*.

Professional Presentations

Invited Lectures

- Heathcock, J., Moreau, N.G., Fuchs, R., Gordon, A. (2014, March). *Linking Structure to Function: Muscle, Bone, and Brain*. Ohio Physical Therapy Association 2014 Annual Conference, Columbus, OH.
- Moreau, N.G., Fuchs, R., Gannotti, M. (2013, November). *Muscle and Bone Structure and Function in Children with Cerebral Palsy: Implications for Physical Therapy*

- Practice*. Sacred Heart University, Fairfield, CT. (proceeds went to the Marquette Challenge to raise money for the Foundation for Physical Therapy.)
- Kolobe, T., Moreau, N. G., Fuchs, R., Gannotti, M., Gordon, A., Christy, J., Prosser, L., Heathcock, J., (2013, January). *Linking Structure to Function: Muscle, Bone, and Brain*. Combined Sections Meeting, Section on Pediatrics Pre-Conference Course, San Diego, CA.
- Moreau, N. G. (2012, December). *Muscle Architectural Adaptation in CP: Implications for Muscle Function*. 18th Annual Management Strategies for Functional Impairments in Children with Neuromuscular Conditions sponsored by the Kluge Children's Rehabilitation & Research Institute at the University of Virginia, Charlottesville, VA.
- Moreau, N. G. (2012, December). *POWER Training in CP: It's not just for Athletes!* 18th Annual Management Strategies for Functional Impairments in Children with Neuromuscular Conditions sponsored by the Kluge Children's Rehabilitation & Research Institute at the University of Virginia, Charlottesville, VA.
- Moreau, N. G., Coker-Bolt, P., Poon, J., Jenkins, D. (2011, April). *Life after the NICU: How to tell if your baby is okay*. Pediatric Grand Rounds sponsored by the Department of Pediatrics at the Medical University of South Carolina, Charleston, SC.
- Moreau, N. G. (2010, April). *Muscle Architectural Plasticity in Cerebral Palsy: a Research Update*. 9th Annual Pediatric Neuroscience Update sponsored by the Department of Neurosciences at the Medical University of South Carolina, Charleston, SC.
- Moreau, N. G. (2010, March). *Muscle Architectural Plasticity in Cerebral Palsy: Challenging Existing Paradigms*. Scientific Retreat on Bioengineering and Regenerative Medicine sponsored by the South Carolina Clinical and Translational Research Institute & South Carolina Bioengineering Alliance, Charleston, SC.
- Moreau, N. G. (2009, March). *Muscle Architectural Plasticity in Children and Adolescents with Cerebral Palsy*, University of South Carolina Arnold School of Public Health Research Seminar, Columbia, SC.
- Moreau, N. (2008, February). *Ultrasound Imaging of Quadriceps Muscle Architecture in Children with Cerebral Palsy*, Washington University Program in Physical Therapy Research Program Seminar.
- Moreau, N. (1999-2001, May). *Pathological Gait in Cerebral Palsy*, Pediatric Orthopedic Conference / Shriners Hospital, Shreveport, LA.
- Moreau, N. (1999, May). *Normal Gait and Gait Lab Basics*, Pediatric Orthopedic Conference / Shriners Hospital, Shreveport, LA.

Moreau, N. (1999-2001, Spring semester). *Gait Analysis Laboratory Basics*, Department of Physical Therapy, LSU Medical University, Shreveport, LA.

Moreau, N. (1998, Fall semester). *Therapeutic Use of Modalities*, Occupational Therapy Assistant Program, Panola Junior College.

Oral/platform Presentations at Professional Meetings

Moreau, N. G., Coker-Bolt, P., Perkel, J., Holthaus, K., Jenkins, D. (2012, October). *Magnetic Resonance Spectroscopy (MRS) findings correlate with kinematic measures of motor test performance in high risk preterm infants*. American Academy for Cerebral Palsy and Developmental Medicine, Toronto, Canada. Gayle G. Arnold Award Nominee for Best Free Paper

Moreau, N. G., Balleh, M., Holthaus, K., Coker-Bolt, P., Perkel, J., Jenkins, D. (2012, October). *Muscle architectural differences between preterm infants at high and low risk for developmental disabilities*. American Academy for Cerebral Palsy and Developmental Medicine, Toronto, Canada.

Moreau, N. G., Holthaus, K., Marlow, N. (2012, February). *Muscle Architectural Plasticity of the Quadriceps in Response to High Velocity vs. Traditional Strength Training in Cerebral Palsy: a Randomized Clinical Trial*. Section on Pediatrics, Combined Sections meeting, APTA, Chicago, IL.

Moreau, N. G., Holthaus, K., Marlow, N. (2012, February). *Muscle Architectural Plasticity of the Quadriceps in Response to High Velocity vs. Traditional Strength Training in Cerebral Palsy: Effects on Function, Self-Concept, Activity and Participation*. Section on Pediatrics, Combined Sections meeting, APTA, Chicago, IL.

Moreau, N. G., Holthaus, K., Marlow, N. (2011, October). *Differential Adaptations of Muscle Architecture in Response to High Velocity versus Traditional Strength Training in Cerebral Palsy*. American Academy for Cerebral Palsy and Developmental Medicine, Las Vegas, NV. Gayle G. Arnold Award Nominee for Best Free Paper

Moreau, N. G., Knight, H., Olson, M. W. (2011, February) *To decline or not to decline: a potential mechanism by which torque output is preserved in cerebral palsy*. Section on Pediatrics, Combined Sections meeting, APTA, New Orleans, LA.

Moreau, N. G., Teefey, S., Damiano, D. L. (2010, February). *Decreased ability to produce torque per unit of cross-sectional area of the rectus femoris is related to standing and walking performance in cerebral palsy*. Section on Pediatrics, Combined Sections meeting, APTA, San Diego, CA.

Moreau, N. G., Stanley, C., Miros, J., Scholtes, S., Teefey, S., Brunstrom-Hernandez, J., Damiano, D. L. (2009, September). *Muscle plasticity in children with cerebral palsy*

- in response to intensive activity: a pilot study.* American Academy for Cerebral Palsy and Developmental Medicine, Scottsdale, AZ.
- Moreau, N. G., Stanley, C., Teefey, S., Damiano, D. L. (2009, February). *Muscle architecture of the quadriceps is related to strength and function in children with cerebral palsy.* Section on Pediatrics, Combined Sections meeting, APTA, Las Vegas, NV.
- Moreau, N. G., Teefey, S., Damiano, D. L. (2008, November). *Muscle architectural plasticity in children with cerebral palsy: a pilot study.* Neurobiology of Disease in Children New Investigator Symposium, Child Neurology Society 37th Annual Meeting, Santa Clara, CA.
- Moreau, N. G., Stanley, C., Teefey, S., Damiano, D. L. (2008, September). *In vivo muscle architecture of the rectus femoris and vastus lateralis in cerebral palsy.* American Academy for Cerebral Palsy and Developmental Medicine, Atlanta, GA. Gayle G. Arnold Award Nominee for Best Free Paper
- Moreau, N. G., Stanley, C., Teefey, S., Damiano, D. L. (2008, April). *Rectus femoris fascicle length is related to dynamic measures of knee excursion during gait in cerebral palsy.* Gait and Clinical Movement Analysis Society Annual meeting, Richmond, VA.
- Moreau, N. G., Li, L., Damiano, D. L. (2008, February). *Contributors to fatigue resistance of the hamstrings and quadriceps in cerebral palsy.* Section on Pediatrics, Combined Sections meeting, APTA, Nashville, TN.
- Moreau, N. G., Li, L., Damiano, D. L. (2007, October). *Absolute torque level contributes to fatigue resistance of the hamstrings and quadriceps in cerebral palsy.* American Academy for Cerebral Palsy and Developmental Medicine, Vancouver BC.
- Moreau, N. G., Li, L., Damiano, D. L. (2006, September). *Development of a feasible and reliable muscle fatigue protocol for individuals with cerebral palsy.* American Academy for Cerebral Palsy and Developmental Medicine, Boston, MA.
- Moreau, N. G., Li, L., Damiano, D. L. (2006, September). *Is fatigue a problem at the muscle level in cerebral palsy?* American Academy for Cerebral Palsy and Developmental Medicine, Boston, MA.
- Moreau, N., Tinsley, S., Li, L. (2004, April). *Progression of knee joint kinematics in children with cerebral palsy with and without rectus femoris transfers: a long-term follow up.* 9th Annual Meeting of the Gait and Clinical Movement Analysis Society, Lexington, KY.
- Moreau, N., Tinsley, S., Cavell, A., Semones, K. (2004, February). *Long Term Outcomes of Rectus Femoris Transfers in Children with Cerebral Palsy.* Section on Pediatrics, Combined Sections meeting, APTA, Nashville, TN.

Moreau, N., Tinsley, S., Cavell, A., Semones, K. (2003, September). *Long Term Outcomes of Rectus Femoris Transfers in Children with Cerebral Palsy*. Louisiana State Physical Therapy Association Fall Conference, New Orleans, LA.

Moreau, N., Simpson, J., Wilkerson, J., Gates, P. (2003, February). *Goal Specific Outcomes of Rectus Femoris Transfers in Children with Cerebral Palsy Based on Stance-Phase Characteristics*. Section on Pediatrics, Combined Sections Meeting, APTA, Tampa, FL.

Moreau, N., Simpson, J., Wilkerson, J., Gates, P. (2002, October). *Goal Specific Outcomes of Rectus Femoris Transfers in Children with Cerebral Palsy Based on Stance-Phase Characteristics*. 56th Annual Meeting of the American Academy for Cerebral Palsy and Developmental Medicine, New Orleans, LA.

Moreau, N., Simpson, J., Wilkerson, J., Gates, P. (2002, September). *Goal Specific Outcomes of Rectus Femoris Transfers in Children with Cerebral Palsy Based on Stance-Phase Characteristics*. Louisiana State Physical Therapy Association Fall Conference, New Orleans, LA.

Moreau, N., Tinsley, S. L., and Dugas, B. (2001, September). *Stance Phase Characteristics as a Predictor for Rectus Femoris Transfers*. Louisiana State Physical Therapy Association Fall Conference, New Orleans, LA. -Best Platform Presentation Award

Poster Presentations at Professional Meetings

Coker-Bolt, P., Moreau, N., Perkel, J., Mulvihill, D., Woodbury, M., Jenkins, D. (2012, May). *Very early, quantifiable motor skills in preterm infants*. Pediatric Academic Societies Annual Meeting, Boston, MA.

Moreau, N. G., Holthaus, K. (2011, October). *Motor Severity Negatively Affects Muscle Architecture in CP: a comparison between GMFCS levels, hemiplegia, and typically developing children*. American Academy for Cerebral Palsy and Developmental Medicine, Las Vegas, NV.

Moreau, N.G., Falvo, M., Damiano, D. L. (2011, April). *Rapid force generation of the knee extensors is more impaired than strength in cerebral palsy and is related to decreased muscle size and functional mobility*. Gait and Clinical Movement Analysis Society Annual meeting, Bethesda, MD.

Dew, A. P., Moreau, N. G. (2011, April). *Getting the most out of a 2D ultrasound measure of muscle thickness in children with cerebral palsy*. Gait and Clinical Movement Analysis Society Annual meeting, Bethesda, MD.

Moreau, N. G., Stanley, C., Teefey, S., Damiano, D. L. (2009, February). *Relationship of muscle architecture of the quadriceps with strength and function in children with*

- cerebral palsy*. Darby Research Children's Institute 4th Annual Meeting, Charleston, SC.
- Moreau, N. G., Stanley, C., Teefey, S., Damiano, D. L. (2008, September). *Relationship of muscle architecture of the quadriceps with strength and function in children with cerebral palsy*. American Academy for Cerebral Palsy and Developmental Medicine, Atlanta, GA.
- Moreau, N. G., Li, L., Damiano, D. L. (2006, September). *Are muscle strength and fatigue related to walking velocity in individuals with and without cerebral palsy?* Combined Gait & Clinical Movement Analysis Society/European Society of Movement Analysis for Adults and Children Meeting, Amsterdam, The Netherlands.
- Gates, P., Moreau, N., Bicknell, S., Ostendorff, S. (2002, October). *Modified ERTL procedure for Terminal Overgrowth in Childhood Below-knee Limb Deficiencies: Comparison with Excision and Periosteal Closure*. Association of Children's Prosthetic-Orthotic Clinics Annual Meeting, Toronto, Canada.
- Tinsley, S. L., Moreau, N., and Fabre, J. (2002, February). *The Effects of Rectus Femoris Transfer Surgery on Gait in Children with Cerebral Palsy*. Section on Pediatrics, Combined Sections Meeting, APTA, Boston MA.
- Tinsley, S.L., Moreau, N., Pennywell, S., Judd, D., Dugas, B., Fabre, J. (2002, February). *The effect of rectus femoris transfer and hamstring lengthening on gait in children with cerebral palsy*. Section on Pediatrics, Combined Sections Meeting, APTA, Boston MA.
- Moreau, N., Tinsley, S. L., Judd, D., Dugas, B., Fabre, J., Pennywell, S., Gates, P. (2001, April). *Stance Phase Characteristics as a Predictor for Rectus Femoris Transfers*. 6th Annual Meeting of the Gait and Clinical Movement Analysis Society, Sacramento, CA.
- Moreau, N., Tinsley, S. L., and Fabre, J. (2001, September). *The Effects of Rectus Femoris Transfer Surgery on Gait in Children with Cerebral Palsy*. Louisiana State Physical Therapy Association Fall Conference, New Orleans, LA.

Other Professional Presentations

- Moreau, N.G., Fuchs, R., Gannotti, M. (2014, February). *Linking Structure and Function for Muscle and Bone Across the Lifespan in People with Cerebral Palsy (Part 1)*. Educational Course presented at the Combined Sections Meeting, Section on Pediatrics, of the APTA, Las Vegas, NV.
- Moreau, N.G., Fuchs, R., Gannotti, M. (2014, February). *Linking Structure and Function: Dosing Parameters and Protocols for Current and Novel Therapies to Improve Muscle and Bone Outcomes in Cerebral Palsy (Part 2)*. Educational Course presented

at the Combined Sections Meeting, Section on Pediatrics, of the APTA, Las Vegas, NV.

Moreau, N.G., Fuchs, R., Gannotti, M. (2013, October). *Linking Structure and Function: Dosing Parameters and Protocols for Interventions to Improve Muscle and Bone Outcomes in Cerebral Palsy*. Instructional Course presented at the American Academy for Cerebral Palsy and Developmental Medicine, Milwaukee, WI.

Shortland, A., Moreau, N. G., Gough, M. (2009, April). *Ultrasound Imaging of Muscle Deformity in Cerebral Palsy*. Pre-conference symposium presented at the Gait and Clinical Movement Analysis Society Annual Meeting, Denver, CO.

Damiano, D. L., Moreau, N. G., Stanley, C. (2008, April). *Muscling our way into improving gait and motor activity in cerebral palsy and other motor disabilities*. Pre-conference symposium presented at the Gait and Clinical Movement Analysis Society Annual Meeting, Richmond, VA.

Awards, Prizes, Lectureships

- | | |
|-------------|--|
| 2012, 2013 | Gayle G. Arnold Award Nominee for Best Free Paper, American Academy of Cerebral Palsy and Developmental Medicine |
| 2008 | Neurobiology of Disease in Children (NDC) Young Investigator Award |
| 2008 | Gayle G. Arnold Award Nominee for Best Free Paper, American Academy of Cerebral Palsy and Developmental Medicine |
| 2007 | Louisiana State University Dissertation Fellowship Recipient |
| 2007 | Louisiana State University Distinguished Dissertation Award Nominee |
| 2003 – 2006 | <i>Lilian Oleson Scholar</i> , Louisiana State University, College of Education |
| 2002 – 2006 | Louisiana State Board of Regents Fellowship Recipient, Louisiana State University, College of Education |
| 2002 – 2003 | <i>Mary McMillan Scholar</i> , American Physical Therapy Association |
| 1996 | Chancellor's Award for Outstanding Student,
Louisiana State University Medical Center, Shreveport, LA |
| 1996 | <i>Summa Cum Laude</i> , Louisiana State University Medical Center, Shreveport, LA |

Contributions to Juried or Refereed Publications

Journal Editorial Board

Journal of Novel Physiotherapies

Manuscript Reviewer

Archives of Physical Medicine and Rehabilitation

Clinical Biomechanics

Developmental Medicine and Child Neurology

Muscle & Nerve

Pediatric Physical Therapy

Gait & Posture

Journal of Biomechanics

Pediatrics

Disability and Rehabilitation

Stroke Research and Treatment

Journal of Pediatric Biochemistry

Grants and Contracts Funded

Submitted (2013 – 2014):

R21 Moreau & Bjornson (Co-PIs) Submitted November, 2013
NICHD / NIH

Muscle Performance and Walking in Cerebral Palsy: Short-burst Interval Training

Goal: To determine the effect of short-burst interval LTT without body weight support on the primary outcomes of walking performance and capacity, and secondary outcome of daily participation in children with CP. To identify key muscular mechanisms with this type of training, we will examine quadriceps muscle performance and architecture.

Amount: \$419,245

Role: PI (15% effort)

Status: pending (***Percentile score = 10***)

Current Support:

CHASA grant Gordon (PI) 7/1/2013 – 6/30/2014
Children’s Hemiplegia & Stroke Association

Intensive Home-based Bimanual and Lower Limb Training in Young Children with Hemiplegia

Goal: The major goals of this project are to determine the efficacy of a home-based hand-arm bimanual intensive training (H-HABIT) in comparison to lower limb training, an alternative therapy of equal intensity and duration.

Amount: \$10,000

Role: Co-I

Dean's Intramural Grant Program Moreau (PI) 05/01/13 – 04/30/15
Muscle Power and Walking in Cerebral Palsy: Short-burst Interval Training – a Pilot Study
Goal: The proposed short-burst interval training protocol targets specific muscle performance deficits to drive changes in community walking activity. This proposal represents an innovative departure from current rehabilitation protocols and a potentially highly impactful approach for substantially improving mobility outcomes in ambulatory children with CP.
Amount: \$10,000
Role: PI

Previous Support:

Beginning Grant-in-Aid Gregory (PI) 7/01/11 – 6/30/12
American Heart Association
Lower Extremity Power and Locomotor Function after Stroke
Goal: The primary objective is to establish a scientific framework to maximize walking outcomes post-stroke. It is hypothesized that the proposed training will provide a stimulus such that existing impairments are attenuated within functional task performance, thereby facilitating improved locomotor function.
Amount: \$153,975
Role: Co-I

Pilot Project Coker (PI) 7/01/10 – 06/30/12
MUSC SCOR (Specialized Center of Research) on Sex and Gender Factors Affecting Women's Health
Early Gender Related Motor Skills Differences in Female and Male Preterm Infants
Amount: \$20,000
Role: Co-I

Pedal-with-Pete Foundation Moreau (PI) 1/01/09-06/31/11
In Vivo Assessment of Quadriceps Muscle Plasticity in Children with Cerebral Palsy
Amount: \$38,000
Role: PI

New Investigator Award Moreau (PI) 1/01/09-12/31/10
Thrasher Research Fund
In Vivo Assessment of Quadriceps Muscle Plasticity in Children with Cerebral Palsy
Amount: \$27,000
Role: PI

Clinical Research Grant Moreau (PI) 6/01/07-05/31/09
Section on Pediatrics, American Physical Therapy Association
Physical Activity and Muscle Plasticity in Cerebral Palsy
Amount: \$10,000
Role: PI

T32-HD007434-13 Miller (PI) 01/2007 – 08/2008
NIH/NCMRR

Movement Science Program, Dept. of Physical Therapy, Washington University in St. Louis
Role: Postdoctoral Research Fellow

Clinical Research Grant Moreau (PI) 6/01/05-05/31/06
Section on Pediatrics, American Physical Therapy Association
Quantification of Muscle Fatigue in Cerebral Palsy
Amount: \$1,000
Role: PI

Dissertation Year Fellowship 8/15/07-05/31/08
Louisiana State University Graduate School
Dissertation title: Quantification of Muscle Fatigue in Cerebral Palsy and Its Relationship to Impairments and Function

Mary McMillan Doctoral Scholarship 9/01/02-8/31/03
Foundation for Physical Therapy

Major Areas of Research Interest

- Use of ultrasound imaging in the investigation of muscle architectural plasticity in response to interventions in cerebral palsy
- Development of effective rehabilitation strategies to enhance muscle function and quality of life in people with cerebral palsy
- Mechanisms underlying abnormal force production in youth with cerebral palsy and other movement disorders, such as stroke
- 3D Gait analysis of abnormal movement patterns in movement disorders

Teaching Experience

Courses taught current year (2013-2014)

PHTH 7101 Evidence-Based PT I: Clinical Analyses, Doctor of Physical Therapy Program, LSUHSC (Instructor).

PHTH 7102 Evidence-Based PT II: Clinical Analyses, Doctor of Physical Therapy Program, LSUHSC (Instructor).

PHTH 7240 Motor Behavior, Doctor of Physical Therapy Program, LSUHSC.
(Instructor)

PHTH 7132 Movement Sciences II, Doctor of Physical Therapy Program, LSUHSC.
(Course Director)

PHTH 7271 Diagnosis & Management in Neuromuscular Disorders, Doctor of Physical Therapy Program, LSUHSC (Instructor)

Courses taught prior year (2012 – 2013)

PHTH 7101 Evidence-Based PT I: Clinical Analyses, Doctor of Physical Therapy Program, LSUHSC (Instructor).

PHTH 7240 Motor Behavior, Doctor of Physical Therapy Program, LSUHSC. (Instructor)

PHTH 7132 Movement Sciences II, Doctor of Physical Therapy Program, LSUHSC. (Course Director)

PHTH 7271 Diagnosis & Management in Neuromuscular Disorders, Doctor of Physical Therapy Program, LSUHSC (Instructor)

Directed student research projects

Shrader, A., Lahasky, K., Soileau, M. (2013-2014). *Effectiveness of Interventions to Improve Walking Speed in Cerebral Palsy: a Systematic Literature Review*. Doctor of Physical Therapy Program, Department of Physical Therapy, LSUHSC-NO. (Capstone advisor)

Judd, C. (2011-2012). *Reliability of Lower Extremity Kinematics Obtained Using Two-Dimensional Video Analysis in Young Infants*. Doctor of Physical Therapy Program, Department of Health Professions, Medical University of South Carolina. (Research advisor)

Smart-Balleh, M. (2011). *Differences in Muscle Architecture, Passive and Dynamic Range of Motion in High and Low Risk Preterm Infants*. Doctor of Physical Therapy Program, Department of Health Professions, Medical University of South Carolina. (Research advisor)

Dew, AP. (2010-2011). *Getting the most out of a 2D ultrasound measure of muscle thickness in children with cerebral palsy*. Doctor of Physical Therapy Program, Department of Health Professions, Medical University of South Carolina. (Research advisor)

*Received the 2013 Clinical Research Award from the Section on Pediatrics for the publication from this research project

Vanderwerker, C. (2009). *Muscle Plasticity of the Quadriceps in Response to Velocity-Enhanced Resistance Training in a Teenager with Cerebral Palsy Improves Muscle Performance and Quality of Life: a Case Report*. Doctor of Physical Therapy Program, Department of Health Professions, Medical University of South Carolina. (Research advisor)

Pennywell, S., Judd, D., Dugas, B., Fabre, J. (2001). *The effect of rectus femoris transfer and hamstring lengthening on gait in children with cerebral palsy*. Master of Physical Therapy Program, Department of Physical Therapy, LSUHSC-S. (Research advisor)

Fabre, J., Pennywell, S., Judd, D., Dugas, B. (2001). *The effect of rectus femoris transfer surgery on gait in children with cerebral palsy*. Master of Physical Therapy Program, Department of Physical Therapy, LSUHSC-S. (Research advisor)

Cavell A, Semones K. (2003). *Long Term Outcomes of Rectus Femoris Transfers in Children with Cerebral Palsy*. Master of Physical Therapy Program, Department of Physical Therapy, LSUHSC-S. (Research advisor)

Simpson J., Wilkerson J. (2002). *Goal Specific Outcomes of Rectus Femoris Transfers in Children with Cerebral Palsy Based on Stance-Phase Characteristics*. Master of Physical Therapy Program, Department of Physical Therapy, LSUHSC-S. (Research advisor)

Professional Organization Service

- 2013-2014 *Grant Reviewer* – American Physical Therapy Association, Section on Pediatrics
- 2010-2013 *Chair of the Awards Committee* - Section on Pediatrics, American Physical Therapy Association
- 2010-2012 *Awards Committee* – American Academy of Cerebral Palsy and Developmental Medicine
- 2009-present *Research Committee Member*
Section on Pediatrics, American Physical Therapy Association
- 2009-present Combined Sections Meeting Abstract Reviewer, Section on Pediatrics
- 2007-present Gait and Clinical Movement Analysis Society Abstract Reviewer
- 2001-20002 *Steering Task Force*
Shriners Hospital Motion Analysis Laboratory Network

Academic Service

University

- 2011-2012 Faculty Senate - Medical University of South Carolina

School / College

- 2013-present DPT III Promotions Committee – Louisiana State University Health Sciences Center School of Allied Health, Department of Physical Therapy
- 2013-present Chair of Research Committee – Louisiana State University Health Sciences Center School of Allied Health, Department of Physical Therapy
- 2013-present Member of the Research Committee – Louisiana State University Health Sciences Center School of Allied Health
- 2010-2012 Promotion & Tenure Policy Writing Committee - Medical University of South Carolina College of Health Professions

2010-2012 Research Resource Group - Medical University of South Carolina College of Health Sciences and Research
2010-2012 Search Committee Member – Faculty Position in the Department of Health Sciences and Research
2009-2012 PhD Advisory Board – Medical University of South Carolina College of Health Professions
2009-2012 PhD Curriculum Committee – Medical University of South Carolina College of Health Professions
2009-2012 Research Council Member – Medical University of South Carolina College of Health Professions
2009-2010 Search Committee Member – Division Director of Physical Therapy, Medical University of South Carolina, College of Health Professions
2009-2010 Search Committee Member –Chair of the Department of Health Sciences and Research, Medical University of South Carolina College of Health Professions
2008-2012 CAPTE Accreditation Technology Committee Member – Medical University of South Carolina College of Health Professions, Division of Physical Therapy

Public Service

2009-2012 *Volunteer* - Anchors Aweigh Adaptive Ski Clinic, Charleston, SC
2008-2012 *Volunteer* - Charleston and Summerville Miracle League, Charleston, SC
2005 *Volunteer* – Hurricane Katrina Medical Triage Unit, Baton Rouge, LA

(Formatted according to LSUHSC guidelines) Revised 06/2014