

# Luther C. Gill D.P.T., Ph.D.

## Curriculum Vitae

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### **Education & Training:**

2017-present	Assistant Professor School of Allied Health Professions LSU Health Science Center Department of Physical Therapy New Orleans, LA
2013-2016	Postdoctoral Research Fellow, Neuromuscular Physiology Department of Physiology and Biomedical Engineering Mayo Clinic Rochester, Minnesota
2007-2012	Doctor of Philosophy, Rehabilitation Science/Physiology College of Public Health and Health Professions Department of Physical Therapy University of Florida Gainesville, FL
2003-2006	Doctor of Physical Therapy School of Science Department of Physical Therapy Hampton University Hampton, Virginia
1994-1999	Bachelor of Science College of Education, Criminal Justice & Human Services Sports Medicine/Athletic Training University of Cincinnati Cincinnati, Ohio

### **Professional Experience:**

2017-present	Physical Therapist, University Medical Center, New Orleans, LA
2015-2017	Physical Therapist, Hennepin County Medical Center, Minneapolis MN
2007-2012	Physical Therapist, North Florida Regional Medical Center, Gainesville, FL
2007-2010	Physical Therapist, Shands Rehabilitation Hospital, Gainesville, FL
2006-2007	Physical Therapist, Riverside Rehabilitation Institute, Newport News, VA
2006-2007	Physical Therapist, Sentara Nursing and Rehabilitation, Hampton, VA

### **Licensure**

2017-present	Louisiana
2015-present	Minnesota
2007-present	Florida
2006-2008	Virginia

### **Peer Reviewed Publications:**

**Gill LC**, Gransee HM, Sieck GC, Mantilla CB. Functional recovery after cervical spinal cord injury: Role of neurotrophin and glutamatergic signaling in phrenic motoneurons. *Respir Physiol Neurobiol.* 2016; 226:128-136.

**Gill LC**, Mantilla CB, Sieck GC. Impact of unilateral denervation on transdiaphragmatic pressure. *Respir Physiol Neurobiol.* 2015; 210:14-21.

**Gill LC**, Ross HH, Lee KZ, Gonzalez-Rothi EJ, Dougherty BJ, Judge AR, Fuller DD. Rapid diaphragm atrophy following cervical spinal cord hemisection. *Respir Physiol Neurobiol.* 2014; 192:66-73.

Roberts BM, Ahn B, Smuder AJ, et al. Diaphragm and ventilatory dysfunction during cancer cachexia. *FASEB J.* 2013;27(7):2600-2610.

**Gill LC**, Mantilla CB, Greising SM, Zhan WZ, Seven YB, Sieck GC. Trkb kinase activity is necessary for diaphragm muscle fiber growth in the neonatal mouse. *In preparation for submission to Journal of Applied Physiology.*

### **Abstracts:**

**Gill LC**, Mantilla CB, Sieck GC. Unilateral Denervation of the Diaphragm Muscle Increases Central Drive Only During Ventilatory Behaviors. *Accepted for presentation at Experimental Biology 2015 Boston, MA.*

Sieck GC, Gransee HM, **Gill LC**, Jorgenson A, Medina J, Alvarez-Argote J, and Mantilla C. Unilateral diaphragm muscle paralysis minimally impacts ventilation in rodents. *FASEB J April 2014* 28:871.5

**Gill LC**, Ross HH, Gonzalez-Rothi EJ, Smuder AJ, Judge AR, Fuller DD. The diaphragm rapidly increases expression of muscle atrophy genes following acute cervical spinal cord injury (cSCI). *FASEB J April 9, 2013* 27:939.2

**Gill LC**, Gonzalez-Rothi E, Lee KZ, Smith BK, Vandeborne KV, Reier PJ, Fuller DD. Ipsilateral hemidiaphragm atrophy following unilateral cervical spinal cord injury. *FASEB J March 17, 2011* 25:653.11

Gonzalez-Rothi EJ, **Gill LC**, Lee KZ, Dougherty BJ, Reier PJ, Vandeborne KV, Fuller DD. Upper extremity skeletal muscle adaptations following high cervical spinal cord injury (SCI) in adult rats. *FASEB J March 17, 2011* 25:1105.16

**Gill LC**, Reed S, Martin D, Judge AR, Fuller DD. Altered pattern of breathing and upregulation of atrophy-related genes in the diaphragm of septic mice. *FASEB J March 17, 2011* 25:1111.27

**Gill LC**, Lee KZ, Smith BK, Vandeborne KV, Reier PJ, Fuller DD. Diaphragm and intercostal neuromuscular plasticity following C2 spinal hemisection injury (C2HS). *FASEB J April 6, 2010* 24:799.

**Gill LC**, Gonzalez-Rothi E, Lee KZ, Smith BK, Vandeborne KV, Reier PJ, Fuller DD. Diaphragm Plasticity following C2HS. *Advances in Skeletal Muscle Biology in Health and Disease 2012, Gainesville Florida*

**Gill LC**, Gonzalez-Rothi E, Lee KZ, Smith BK, Vandeborne KV, Reier PJ, Fuller DD. Diaphragm Plasticity following C2HS. *Annual Neuromuscular Plasticity Symposium 2012 University of Florida.*

Dougherty BJ, Ross HH, **Gill LC**, Reier PJ, Fuller DD. Fetal Serotonergic cell transplants improve ventilation after cervical spinal cord injury in adult rats. *International Symposium on Neural Regeneration 2009.*

**Gill LC**, Day KV, Bowden MG, Stickles SP, Behrman AL. Quantifying Locomotor Adaptability After Spinal Cord Injury: Clinic vs. Community-based Performance? *American Physical Therapy Association Combined Sections Meeting 2009.*

Day KV, Kautz SA, **Gill LC**, Suter SP, Behrman AL. Does compensation with an assistive device mask recovery of dynamic walking stability after spinal cord injury? *American Physical Therapy Association Combined Sections Meeting 2009*.

Day KV, **Gill LC**, Stickles SP, Kautz SA, Behrman AL. Exploring measures of walking stability in incomplete spinal cord injury. *Platform presentation, Neurology Section, 2008 American Physical Therapy Association Annual Combined Sections Meeting Nashville, Tennessee*

**Gill LC**, Day KV, Bowden MG, Stickles SP, Behrman AL. Walking Adaptability after incomplete spinal cord injury: does capacity match performance? *Annual Neuromuscular Plasticity Symposium 2008 University of Florida*.

### **Presentations:**

2012 **Diaphragm plasticity**. Annual Neuromuscular Plasticity Symposium 2008. University of Florida Department of Physical Therapy, Gainesville, Florida.

2011 **Diaphragm Plasticity in two injury models**. University of Florida Department of Physical Therapy, Gainesville, Florida.

2011 **Diaphragm Plasticity in sepsis and spinal cord injury**. College of Public Health and Health Professions Research Day, University of Florida Department of Physical Therapy, Gainesville, Florida.

2010 **Diaphragm plasticity following C2 spinal hemisection (C2HS): preliminary studies**. The Federation of American Societies for Experimental Biology (FASEB) 2010. Anaheim, California

2009 **Diaphragm Myofiber atrophy after Cervical Spinal cord Injury**. University of Florida Department of Physical Therapy, Gainesville, Florida.

2008 **Diaphragm and intercostal plasticity following high cervical spinal cord injury**. Annual Neuromuscular Plasticity Symposium 2008. University of Florida Department of Physical Therapy, Gainesville, Florida.

### **Research Support:**

**07/01/18-07/01/20 NIH/NIGMS U54 GM104940**

***Louisiana Clinical and Translational Science Center- LA CaTS Roadmap Scholars Program***

***\$220,000 (direct cost: \$220,000, indirect cost: \$0)***

Role: Roadmap Scholar (PI: J. Kirwan)

The Professional Development Core intends to be the "research home" for junior faculty, post-doctoral fellows, and students who are preparing for a career as independent clinical/translational researchers. The core provides seminars, journal clubs, and two options for formal clinical research training. The Masters of Science in Clinical Research (MSCR) for junior faculty is designed for the Roadmap Scholars (junior faculty selected competitively) who will pursue mentored research and didactic studies. The Roadmap Scholars together with their mentors will design an individual Roadmap leading to independence that includes didactic courses in clinical research methodology, molecular medicine and genetics, health disparity, ethics, and their mentored research leading to a "K" award or equivalent.

**04/03/15-03/31/18 NIH/NHLBI R01 HL 096750-05**

***Administrative Supplement to Recovery of Respiratory Function after Spinal Cord Injury***

***\$267,120 (direct cost: \$168,000, indirect cost: \$ 99,120)***

Role: Post-doctoral Fellow (PI: G. Sieck)

The overall goal is to increase diversity in the research workforce by supporting individuals in the postdoctoral phase by providing training opportunities to individuals whose basic or clinical research interests and skills are grounded in the advanced methods and experimental approaches needed to solve research problems and provide career development experiences in preparation for an independent career in health-related research.

**03/10/13-04/02/15 NIH/NHLBI T32 HL 105355-03**

***Interdisciplinary Training in Lung Physiology and Biomedical Engineering***

Role: Post-doctoral Fellow (PI: G. Sieck)

The goal of this program is to provide training and mentorship for predoctoral trainees and postdoctoral fellows in order to launch independent extramurally-funded research careers.

**03/01/2008-03/01/2012 NIH/NICHHD T32HD043730-11**

***Interdisciplinary Training in Rehabilitation and Neuromuscular Plasticity***

Role: Pre-doctoral Trainee (PI: K. Vandenborne)

The overall goal of this program is to help build a critical capacity of well-trained rehabilitation scientists capable of conducting translational neuromuscular plasticity research. This predoctoral training program is unique in that it emphasizes the interaction and joint training of rehabilitation clinicians and basic science trainees.

**Continuing Education:**

**American Physical Therapy Association Combined Section Meeting 2018**

Enhancing Educational Research: Advice from the JOPTE Editorial Board

Anne Shumway-Cook Lectureship: One Step at a Time: Moving from Bench to Bedside

Multiple Sclerosis in the Underserved: Symptoms, Pharmacology, and Practice Updates

Expanding Diversity in the Profession through Purposeful Admissions Practices

Outcomes after Critical Care: Let's Get Specific

Reach for the Stars: Faculty Research Development

**American Physical Therapy Association Combined Section Meeting 2017**

Anne Shumway-Cook Lecture: "You Can Let Go of Me Now"

Who's in Charge? A Debate Over Motor Dysfunction in Brain and Spinal Cord Injury

Fatigue in Neurologic Disorders: Pathophysiology, Evaluation, and Intervention

Managing Patients with ICU-Acquired Weakness: When the Rubber Hits the Road

Cognitive Impairment in PD: Understanding and Unlocking Freezing Gait

Triggering Plasticity to Improve Rehabilitation Outcomes After Neurologic Injury

Moving Forward from the IV STEP Conference

Assessment of Patients with Critical Illness: A Pragmatic Approach

Eugene Michels Research Forum: What Not to Do and Why

**American Physical Therapy Association Combined Section Meeting 2016**

Mentorship: Exploring the Transition from Mentee to Mentor

Walking Recovery After SCI: Translating Lessons from the Lab into Clinical Practice

Neuroimaging of Motor and Sensory Function in Health and Disease

Optimizing Exercise Effects on Neuroplasticity to Promote Motor Rehabilitation

The Unrelenting Misperceptions of Spasticity and Hypertonicity

Making Research Functional How to Ignite Understanding, Utilization and Inquiry of Research Methods

Wearable Sensing and Biofeedback for Gait and Balance Assessment and Intervention

Research Funding Symposium

Advancing Rehabilitation Research in Today's Environment

**American Physical Therapy Association Combined Sections Meeting 2015**

Linking Neuroanatomy to Function in MS: Mechanisms Driving Gait Deviations

Epigenetics in Rehabilitation Research

Innovative Technologies in Rehabilitation

High Intensity Aerobic Exercise to Enhance Plasticity Post-Stroke

Research Funding Symposium

Eugene Michel's Lecture: Rehabilitation Technology: Friend or Foe?

## **American Physical Therapy Association Combined Section Meeting 2014**

Physical Therapy in the ICU

Acute Care Section Moderated Platform Presentations 1: Orthopedics and Differential Diagnosis in

Acute Care

Making the Case for Respiratory Muscle Training

### **Teaching Experience:**

Fall 2018	<b>Diagnosis and Management of Neuromuscular Disorders</b> , Department of Physical Therapy LSU Health Science Center
	<b>Motor Behavior</b> , Department of Physical Therapy LSU Health Science Center
	<b>Evidence Based Practice III</b> , Department of Physical Therapy LSU Health Science Center
Summer 2018	<b>Foundational Science of Movement</b> , Department of Physical Therapy LSU Health Science Center
Spring 2018	<b>Diagnosis and Management of Neuromuscular Disorders II</b> , Department of Physical Therapy LSU Health Science Center
Fall 2017	<b>Diagnosis and Management of Neuromuscular Disorders</b> , Department of Physical Therapy LSU Health Science Center
Fall 2012	<b>Human Physiology</b> . Department of Physical Therapy, University of Florida
Fall 2012	<b>Functional Anatomy Lab</b> . Department of Physical Therapy, University of Florida
Fall 2012	<b>Professional Issues</b> . Department of Physical Therapy, University of Florida
Summer 2012	<b>Motor Control II</b> . Department of Physical Therapy, University of Florida
Summer 2012	<b>Pediatrics</b> . Department of Physical Therapy, University of Florida
Fall 2010	<b>Human Physiology</b> . Department of Physical Therapy, University of Florida
Spring 2010	<b>Neuroscience</b> . Department of Physical Therapy, University of Florida
Spring 2010	<b>Neuroscience Lab</b> . Department of Physical Therapy, University of Florida
Spring 2007	<b>Neurorehabilitation II</b> . Department of Physical Therapy, University of Florida
Summer 2007	<b>Motor Control II</b> . Department of Physical Therapy, University of Florida
Fall 2007	<b>Neurorehabilitation I</b> . Department of Physical Therapy, University of Florida

### **Awards:**

2010 Outstanding Research Award. College of Public Health and Health Professions, University of Florida

2010 Graduate Student Research Grant (**\$1500**). College of Public Health and Health Professions. University of Florida

2010 American Physiological Society/NIDDK Minority Travel Fellowship. The Federation of American Societies for Experimental Biology Anaheim, California

### **Professional Memberships:**

2011-present	American Physiological Society
2003-present	American Physical Therapy Association