

# **Jonathan (FJ) S. Goodwin, Ph.D., PT, DPT**

---

## ***Contact Information***

Charleston Southern University  
Physical Therapy Department  
Health Science Building, 126D  
9200 University Blvd  
Charleston, SC 29406

Office: (843) 863-7184  
Email: [jgoodwin@csuniv.edu](mailto:jgoodwin@csuniv.edu)

## **EDUCATION**

---

### **University of North Carolina at Chapel Hill, Chapel Hill, NC**

Doctor of Philosophy in Human Movement Science, Biomechanics Concentration (2018)

School of Medicine, Department of Allied Health Sciences, Program in Human Movement Science

Dissertation: *Neuromechanical contributions to lower extremity stiffness during running and hopping in healthy runners*

### **East Carolina University, Greenville, NC**

Doctorate in Physical Therapy (2012)

College of Allied Health Sciences, Department of Physical Therapy

Final year research project: *Clinical predictive measures of lower extremity stiffness during running*

### **Furman University, Greenville, SC**

Bachelor of Science in Health and Exercise Science, *Cum Laude* (2008)

College of Social Sciences, Department of Health and Exercise Science

Senior project: *Comparison of lactate threshold running velocity between track and treadmill running*

## **EMPLOYMENT**

---

### **Charleston Southern University**

Director of Research & Assistant Professor, Physical Therapy Department (2021-Present)

### **Elon University**

Assistant Professor, Department of Physical Therapy Education (2018-2020)

### **University of North Carolina at Chapel Hill**

Research/Teaching Assistant, Department of Exercise and Sport Science (2014-2018)

Part-time Orthopedic Physical Therapist, Department of Physical Therapy (2014-2015)

### **University of North Carolina Healthcare**

PRN Orthopedic/Acute Physical Therapist (2014-2020)

Full-time Orthopedic Physical Therapist (2012-2014)

### **East Carolina University**

Research/Graduate Assistant, Department of Physical Therapy (2008-2012)

## **TEACHING EXPERIENCE**

---

### **Graduate:**

*Elon University*

DPT 609: Physical Therapy Science III (2019-2020, Guest Lecturer)

DPT 611: Research Design I (2019-2020, Course Instructor)

DPT 618: Biomechanics and Musculoskeletal Dysfunction III (2018-2020, Course Instructor)  
DPT 619: Clinical Seminar III (2018-2020, Course Instructor)  
DPT 621: Research Design II (2019-2020, Course Instructor)  
DPT 705: Principles of Electrotherapeutic Examination and Management of Integumentary Disorders (2019-2020, Course Instructor)  
DPT 771: Special Topics in Physical Therapy (2020, Course Instructor)

*University of North Carolina at Chapel Hill:*

EXSS 705: Applied Statistics & Research Methods (2016, Guest Lecturer)

### **Undergraduate:**

*University of North Carolina at Chapel Hill:*

EXSS 175: Human Anatomy (2015, Guest Lecturer)  
EXSS 275L: Cadaver Anatomy (2014 – 2017, Course Instructor)  
EXSS 288: Emergency Care of Athletic Injuries & Illnesses (2015 – 2017, Course Instructor)  
EXSS 380: Neuromuscular Control & Learning (2017 –2018, Course Instructor)

*Furman University:*

HES 41: Physiology of Exercise (2007 –2008, Teaching Assistant)

## **SCHOLARSHIP**

---

### **Publications**

Blackburn JT, Padua DA, Pietrosimone BG, Schwartz TA, Spang JT, **Goodwin JS**, Dewig DR, Johnston CD. Vibration improves gait biomechanics linked to post-traumatic knee osteoarthritis following anterior cruciate ligament injury. *Journal of Orthopaedic Research*, 2020; 1-10 Doi: 10.1002/jor.24821

Dewig DR, **Goodwin JS**, Pietrosimone BG, Blackburn JT. Associations Between Eccentric Hamstring Strength, Hamstring Stiffness and Jump Landing Biomechanics. *Journal of Athletic Training*, 2020; 55(7):717-723. Doi: 10.4085/1062-6050-151-19.

Blackburn JT, Pietrosimone BG, Spang JT, **Goodwin JS**, Johnston CD. Somatosensory function influences aberrant gait biomechanics following anterior cruciate ligament reconstruction. *Journal of Orthopaedic Research*, 2019 Oct 14. doi: 10.1002/jor.24495.

Pfeiffer, SJ, Valentine, JA, **Goodwin, JS**, Nissman, DB, Blackburn, JT, Pietrosimone, B. Effects of a Knee Valgus Unloader Brace on Medial Femoral Articular Cartilage Deformation Following Walking in Varus-Aligned Individuals. *The Knee*, 2019 Jul 21. pii: S0968-0160(19)30130-9. doi: 10.1016/j.knee.2019.06.014. [Epub ahead of print]

Blackburn JT, Pietrosimone BG, **Goodwin JS**, Johnston CD, Spang JT. Co-activation during gait following anterior cruciate ligament reconstruction. *Clinical Biomechanics*, 2019 Jul; 67:153-159. doi: 10.1016/j.clinbiomech.2019.05.010. Epub 2019 May 9.

Johnston CD, **Goodwin JS**, Spang JT, Pietrosimone BG, Blackburn JT. Gait biomechanics in individuals with patellar tendon and hamstring tendon anterior cruciate ligament reconstruction grafts. *Journal of Biomechanics*, 2019 Jan 3;82: 103-108. doi: 10.1016/j.jbiomech.2018.10.011. Epub 2018 Oct 25

**Goodwin JS**, Blackburn JT, Schwartz TA, Williams DS. Clinical predictive measures of lower extremity stiffness during running. *Journal of Orthopaedic & Sports Physical Therapy*, 2019; 49(2):98-104. Epub 27 Jul 2018. 1-24. doi: 10.2519/jospt.2019.7683

**Goodwin JS**, Creighton RA, Pietrosimone BG, Spang JT, Blackburn JT. Medial unloader braces and lateral heel wedges do not alter walking gait biomechanics in young healthy adults with neutral knee alignment. *Journal of Sport Rehabilitation*, 2018, Jan 24: 1-22. doi: 10.1123/jsr.2017-0106

**Goodwin J**, Williams DSB. Clinical predictive measurements of dynamic lower extremity stiffness during running. *Journal of Orthopaedic & Sports Physical Therapy*, 2013 Jan. 43(1), A67 [Abstract]

Moss RF, Caterisano A, Patrick BT, **Goodwin FJ**, Leblanc N. Comparison of VO<sub>2</sub>, ventilation, heart rate, and blood lactate between treadmill and free range running. *Medicine and Science in Sports and Exercise*, 2007, 39(5), S207. [Abstract]

### **Book Chapters**

Blackburn JT, **Goodwin, JS**, Johnston CD, Pamukoff, DN; Vibration Therapy, Therapeutic Modalities in Rehabilitation 5<sup>th</sup> ed, William Prentice, McGraw-Hill, p. 631-640, 2017

### **Research Presentations**

Bell, B, George, K, Roan, C, Buckingham, H, **Goodwin J**. Lower extremity stiffness asymmetry among NCAA Division I athletes. *2020 Global Engagement and Research Forum*, Elon, NC (virtual)

Messina, N, Wong, K, **Goodwin J**. Associations between vertical stiffness and wearable accelerometers during hopping. *2020 Global Engagement and Research Forum*, Elon, NC (virtual)

Newman, G, **Goodwin J**. Estimation of 5<sup>th</sup> digit's contribution to grip strength, bicep curls and dead hangs. *2020 Global Engagement and Research Forum*, Elon, NC (virtual)

Thompson, J, **Goodwin J**. The role of kinesiophobia on ankylosing spondylitis disease activity, exercise habits, and quality of life. *2020 Global Engagement and Research Forum*, Elon, NC (virtual)

**Goodwin JS**, Moore, ML, Ivey BT. Vertical stiffness asymmetry in NCAA Division I athletes. *2020 American Society of Biomechanics National Conference*. Atlanta, GA (virtual)

Fairly T, Maddox A, Park M, **Goodwin J**. A pilot study on asymmetry of Achilles tendon stiffness in habitual runners. *2019 Global Engagement and Research Forum*, Elon, NC

**Goodwin JS**, Franz JR, Padua DA, Ryan ED, Schwartz TA, Blackburn JT. Neuromechanical contributions to lower extremity stiffness differ between single leg hopping and running. *2019 International Society of Biomechanics/American Society of Biomechanics National Conference*. Calgary, AB, Canada

Blackburn T, Pietrosimone B, Dewig D, **Goodwin J**, Johnston C. Vibratory stimuli improve gait biomechanics linked to post-traumatic osteoarthritis in individuals with anterior cruciate ligament reconstruction. *2019 Osteoarthritis Research Society International World Congress*. Toronto, ON, Canada

Blackburn J, Pietrosimone B, Dewig D, **Goodwin J**, Johnston C. Somatosensory deficits influence gait biomechanics linked to post-traumatic osteoarthritis in individuals with anterior cruciate ligament reconstruction. *2019 ACL Research Retreat VIII*. Greensboro, NC

**Goodwin, JS**, Johnston CD, Pietrosimone BG, Blackburn JT. Quadriceps function does not differ between subjects with ACL reconstruction with impulsive vs. normal loading. *2018 American College of Sports Medicine National Meeting*. Minneapolis, MN

Johnston CD, **Goodwin, JS**, Pietrosimone BG, Blackburn JT. Gait biomechanics at different time periods follow anterior cruciate ligament reconstruction. *2018 American College of Sports Medicine National Meeting*. Minneapolis, MN-  
*Biomechanics Interest Group Student Research Award*

**Goodwin JS**, Lewek MD, Blackburn JT. Changes in surface stiffness elicit vertical stiffness changes without changes in metabolic cost during bilateral hopping. *2017 American Society of Biomechanics National Conference*, Boulder, CO

Johnston CD, **Goodwin JS**, Harkey MS, Luc-Harkey BA, Pietrosimone B, Blackburn JT. Loading Rates Do Not Differ Between Hamstring and Patellar Tendon Graft Types During Walking Gait Following Anterior Cruciate Ligament Reconstruction. *2017 National Athletic Trainers' Association Annual Meeting & Clinical Symposia*, Houston, TX

**Goodwin JS**, Harkey MS, Johnston CD, Luc-Harkey BA, Pietrosimone B, Blackburn JT. Comparison of gait kinematics and kinetics between ACL reconstruction graft types. *2017 National Athletic Trainers' Association Annual Meeting & Clinical Symposia*, Houston, TX

Blackburn JT, Pietrosimone BG, **Goodwin JS**, Johnston C. Quadriceps/hamstrings co-activation during gait in individuals with anterior cruciate ligament reconstruction. *2017 Osteoarthritis Research Society International World Congress*, Las Vegas, NV

**Goodwin JS**, Blackburn JT, Schwartz TA, Williams DS. Clinical predictive measures of lower extremity stiffness during running. *2016 American Society of Biomechanics National Conference*; Raleigh, NC

**Goodwin JS**, Creighton RA, Pietrosimone BG, Spang JT, Blackburn JT. Medial unloader braces and lateral heel wedges do not alter walking gait biomechanics in young healthy adults with neutral knee alignment. *2015 UNC Chapel Hill School of Medicine Student Research Day*, Chapel Hill, NC

**Goodwin JS**, Williams DS. Clinical predictive measurements of dynamic lower extremity stiffness during running. *2013 American Physical Therapy Association Combined Sections Meeting*, San Diego, CA

**Goodwin JS**, Williams DS. Changes in running velocity result in changes in negative and positive lower extremity joint work. *2011 North Carolina Physical Therapy Association Student Research Conference*, Raleigh, NC

**Goodwin JS**, Moss RF. Comparison of lactate threshold running velocity between track and treadmill running. *2008 Furman University Social Science Conference*, Greenville, SC

**Goodwin JS**, Moss RF. Iron and altitude: A case study. *2007 Furman University Social Science Conference*, Greenville, SC

**Goodwin JS**, Moss RF. Comparison of energy cost, blood lactate, ventilation and heart rate between track and treadmill running at similar speeds. *2007 National Conference of Undergraduate Research*, Dominican University of California, San Rafael, CA

## **MENTORING**

---

### **Physical Therapy Student Research Mentor:**

Bell, B, George, K, Roan, C, Buckingham, H, **Goodwin J.** Lower extremity stiffness asymmetry and injuries among NCAA Division I athletes. *Department of Physical Therapy Education, Elon University, 2020*

Messina, N, Wong, K, **Goodwin J.** Associations between vertical stiffness and wearable accelerometers during hopping. *Department of Physical Therapy Education, Elon University, 2020*

Newman, G, **Goodwin J.** Estimation of 5<sup>th</sup> digit's contribution to grip strength, bicep curls and dead hangs. *Department of Physical Therapy Education, Elon University, 2020*

Thompson, JR, **Goodwin J.** The role of kinesiophobia on ankylosing spondylitis disease activity, exercise habits, and quality of life. *Department of Physical Therapy Education, Elon University, 2020*

Moore M, Ivey B, **Goodwin J.** Lower extremity stiffness asymmetry among NCAA Division I athletes. *Department of Physical Therapy Education, Elon University, 2019*

Fairly T, Maddox A, Park M, **Goodwin J.** A pilot study on asymmetry of Achilles tendon stiffness in habitual runners. *Department of Physical Therapy Education, Elon University, 2019*

### **Master's Thesis Committees:**

Valentine J, **Goodwin JS,** Pfeiffer SJ, Pietrosimone BG. Effects of a valgus unloader brace on medial femoral cartilage changes following walking protocol. *Department of Exercise & Sport Science, University of North Carolina at Chapel Hill, 2018*

Mackrell C, **Goodwin JS,** Mihalik JP, Blackburn JT. Somatosensory function in individuals with and without a history of concussion. *Department of Exercise & Sport Science, University of North Carolina at Chapel Hill, 2017.*

Dewig D, Pietrosimone BG, **Goodwin JS,** Blackburn JT. Relationships between eccentric hamstring strength, hamstring stiffness, and landing biomechanics. *Department of Exercise & Sport Science, University of North Carolina at Chapel Hill, 2016.*

### **Undergraduate Senior Thesis Committees:**

Buitendorp S, **Goodwin JS,** Pietrosimone BG, Blackburn JT. The relationship between vibratory perception threshold, joint position sense, and loading rate during walking gait in ACLR individuals. *Department of Exercise & Sport Science, University of North Carolina at Chapel Hill, 2017.*

Allen A, **Goodwin JS,** Pietrosimone BG, Blackburn JT. Effects of whole body vibration on gait biomechanics in following anterior cruciate ligament injury. *Department of Exercise & Sport Science, University of North Carolina at Chapel Hill, 2016.*

Bhat S, **Goodwin JS,** Pietrosimone BG, Blackburn JT. The effects of a medial unloader brace and a lateral heel wedge orthotics on gait biomechanics. *Department of Exercise & Sport Science, University of North Carolina at Chapel Hill, 2015.*

**ISB/ASB National Conference.** 2019, Calgary, AB, Canada – Faculty Mentor Program

## SERVICE

---

### **Manuscript Reviewer:**

*BMC Sports Science, Medicine and Rehabilitation*  
*Clinical Biomechanics*  
*Hospital Practice*  
*International Journal of Sports Physical Therapy*  
*Journal of Athletic Training*  
*Journal of Applied Biomechanics*  
*Journal of Strength and Conditioning Research*  
*Journal of Sport Rehabilitation*  
*Physical Therapy in Sport*

### **Committees:**

Charleston Southern University

*Physical Therapy Admissions Committee – Member (2021-Present)*  
*Physical Therapy Curriculum Committee – Member (2021-Present)*  
*Physical Therapy Search Committee – Member (2021-Present)*

Elon University

*Academic Technology Committee – School of Health Sciences Representative (2019-2020)*  
*Search Committee – Faculty Fellow for Technology (2019)*  
*School of Health Sciences Curriculum Committee – Chair (2019-2020)*  
*Special Committee on Service – School of Health Sciences Representative (2019-2020)*  
*Physical Therapy Assessment Committee – Member (2020)*

University of North Carolina at Chapel Hill

*Association for the Accreditation of Human Research Protections Programs – Graduate Representative (2017)*

### **Conference Abstract Reviewer:**

*North Carolina Physical Therapy Association Annual Meeting, 2019, Wilmington, NC*  
*American Society of Biomechanics Annual Meeting, 2020, Atlanta, GA*

## FUNDING

---

Title: Neuromechanical contributions to lower extremity stiffness during hopping and running in healthy runners (2017-2018).

PI: Jonathan Goodwin, PT, DPT

Funding Agency: American Society of Biomechanics Grant-in-Aid Scholarship (\$2,000)

Title: Vibratory stimuli: A novel rehabilitation method for preventing post-traumatic knee osteoarthritis. (2015-2018)

PI: Troy Blackburn, Ph. D.

Funding Agency: US Department of Defense: Award Number W81XWH-15-1-0287 (\$772,058)

Role: Primary graduate assistant

Title: Medial unloader braces and lateral heel wedges do not alter walking gait biomechanics in young healthy adults with neutral knee alignment (2014-2015)

PI: Troy Blackburn, Ph.D.

Funding Agency: UNC Orthopedics

Role: Primary graduate assistant

Title: Pain relief modalities do not effectively reduce acute knee or improve quadriceps function (2015)

PI: Troy Blackburn, Ph. D.

Funding Agency: Glacier Heat, Inc

Role: Primary graduate assistant

## **HONORS/ACTIVITIES**

---

American Society of Biomechanics Grant-in-Aid Dissertation Scholarship (2017-2018)

John B Graham Student Research Society, UNC School of Medicine (2015)

ECU PT Club (2009-2012)

Jerry R. Thomas Most Outstanding HES Senior Major (2008)

Who's Who Among Students in American Universities & Colleges (2007-2008)

A.W. Hawkins Scholarship (HES Departmental Scholarship, 2007-2008)

USAA National Collegiate Physical Education & Health Award (2006)

Cook Scholarship (HES Departmental Scholarship, 2006-2007)

Alpha Epsilon Delta (Pre-Health Honor Society) 2006-2008; Officer: 2007-2008

Furman University Health and Exercise Science Majors Club, 2005-2008; President: 2007-2008

Furman University Athletic Service Board: 2005-2008

## **RESEARCH INTERNSHIPS**

---

**Center for High Altitude Training: Olympic Training Center** (2007)

Northern Arizona University, Flagstaff, AZ (Supervisor: Jack Daniels, Ph.D.)

**Furman Institute of Running and Scientific Training** (2004-2008)

Furman University, Greenville, SC (Supervisor: Ray Moss, Ph.D.)

## **PHYSICAL THERAPY CLINICAL ROTATIONS**

---

**Caswell Developmental Center**, Kinston, NC (2012)

10 weeks of neurological rehabilitation

**Select Physical Therapy**, Rock Hill, SC (2011)

8 weeks of outpatient orthopedic rehabilitation

**Greenville Hospital System: Hillcrest Hospital**, Simpsonville, SC (2010)

8 weeks of acute rehabilitation

**Center for Perfect Balance**, Brevard, NC (2010)

6 weeks of outpatient orthopedic rehabilitation

**CERTIFICATIONS/MEMBERSHIPS**

---

SC Physical Therapy License: 10466 (2021-Present)  
NC Physical Therapy License: P13718 (2012-2020)  
American Society of Biomechanics  
American Physical Therapy Association North Carolina Chapter  
American Physical Therapy Association Sports Section  
American Physical Therapy Association Orthopedic Section  
Dry Needling – Course 1 Certification