

CURRICULUM VITAE

Jeffrey D. Simpson, Ph.D.
Assistant Professor, Biomechanics & Motor Control
Director, Sports Medicine & Neuromechanics Laboratory
Department of Movement Sciences & Health
University of West Florida
11000 University Parkway
Pensacola, Florida, USA
Bldg. 72 Rm. 216 | E: jsimpson1@uwf.edu | P: (850) 474-2570

EDUCATION:

Doctor of Philosophy – Exercise Science (August 2018)

Mississippi State University, Mississippi State, MS, USA

Concentration – Biomechanics / Neuromechanics

Minor Area – Human Factors & Ergonomics

Research Emphasis – Ankle Sprain Mechanics, Chronic Ankle Instability, Sports Biomechanics

Dissertation Title: Biomechanics of Functional and Dynamic Tasks in Individuals with Chronic Ankle Instability

Master of Science – Health and Human Performance (July 2015)

University of North Alabama, Florence, AL, USA

Concentration – Exercise Science

Research Emphasis – Sports Performance

Independent Study Title: Effects of Three-Week External Load Training on Repeated High Intensity Task Performance

Bachelor of Science – Exercise Science (May 2012)

University of Texas-Arlington, Arlington, TX, USA

Concentration – Fitness and Wellness

EMPLOYMENT HISTORY:

2018 – present	Assistant Professor, Biomechanics & Motor Control (Tenure-Track) Director, Sports Medicine & Neuromechanics Laboratory Department of Exercise Science and Community Health, University of West Florida, Pensacola, FL, USA
2017 – 2018	Lecturer Department of Kinesiology, Mississippi State University, Mississippi State, MS, USA
2015 – 2017	Graduate Teaching Assistant Department of Kinesiology, Mississippi State University, Mississippi State, MS, USA
2014 – 2015	Graduate Research Assistant Department of Health, Physical Education, and Recreation, University of North Alabama, Florence, AL, USA

RESEARCH EXPERIENCE:

- 2018 – present **Sports Medicine & Neuromechanics Laboratory, University of West Florida**
Vicon 3D Motion Analysis System, Kistler and AMTI Force Platforms, Delsys sEMG & X-Gen MotionMonitor Software
- 2015 – 2018 **Neuromechanics Laboratory, Mississippi State University**
AMTI Force Platforms, Noraxon EMG, & MaxTRAQ 2D Motion Analysis
- 2016 – 2018 **Human Performance Laboratory, Center for Advanced Vehicular Systems, Mississippi State University**
Vicon 3D Motion Analysis System, AMTI Force Platforms, Noraxon sEMG, & MotionMonitor Software
- 2014 – 2015 **Human Performance Laboratory, University of North Alabama**
Metabolic Testing, Blood Lactate Analysis, & Sports Performance Testing

CURRICULUM EXPERIENCE:

University of West Florida

- APK 5204 Applied Motor Learning/Control in Exercise Science (G)
- APK 6226 Analysis of Human Movement (G)
- APK 4200 Motor Development and Skill Learning (UG)
- APK 3220 Biomechanical Basis of Movement (UG)
- APK 4901 Research Methods in Exercise Science (UG)

Mississippi State University

- EP 3233 Anatomical Kinesiology (UG)
- EP 4503 Mechanical Analysis of Human Movement (UG)
- EP 4703 Neural Control of Human Movement (UG)
- EP 4113 Fitness Programs & Testing (UG)
- EP 3304 Exercise Physiology Laboratory (UG)
- KI 2603 Medical Terminology (UG)
- KI 1803 Health Trends & Topics (UG)

SCHOLARSHIP:

Published or Accepted (In Press) Peer Reviewed Manuscripts:

Simpson J., Stewart E., Turner A. Macias D. Chander H., & Knight A. Lower limb joint kinetics during a side-cutting movement in participants with and without chronic ankle instability. *Journal of Athletic Training* (At Press).

Simpson J., Stewart E., Macias D., Chander H., & Knight A. Individuals with chronic ankle instability exhibit dynamic postural stability deficits and altered unilateral landing biomechanics: A systematic review. *Physical Therapy in Sport*. (In Press).

<https://doi.org/10.1016/j.ptsp.2018.06.003>

Simpson J., Stewart E., Mosby A., Macias D., Chander H., & Knight A. Lower extremity kinematics during ankle inversion perturbations: A novel experimental protocol that simulates an unexpected lateral ankle sprain mechanism. *Journal of Sport Rehabilitation* (Ahead of Print).

<https://doi.org/10.1123/jsr.2018-0061>

Simpson J., Miller B., O'Neal E., Chander H., & Knight A (2018). Ground reaction forces during a drop vertical jump: Impact of external load training. *Human Movement Science*, 59, 12-19.
<https://doi.org/10.1016/j.humov.2018.03.011>

Simpson J., DeBusk H., Hill C., Knight A., & Chander H (2018). The role of military footwear and workload on ground reaction forces during a simulated lateral ankle sprain mechanism. *The Foot*, 34, 53-57.
<https://doi.org/10.1016/j.foot.2017.11.010>

Green J., Miller B., **Simpson J.,** Dubroc D., Keyes A., Neal K., Gann J., & Andre T (2018). Effects of 2% dehydration on lactate concentration during constant-load cycling. *The Journal of Strength & Conditioning Research*, 32(7), 2066-2071.
<https://doi.org/10.1519/JSC.0000000000002293>

Simpson J., Miller B., O'Neal E., Chander H., & Knight A (2018). Three week external load training does not alter balance performance in well-trained women. *Sports Biomechanics*, 17(3), 336-349.
<http://dx.doi.org/10.1080/14763141.2017.1341546>

Cronin C., Miller B., **Simpson J.,** Boman S., Green J., Helm Allen J., & O'Neal E (2016). Natural training hydration status, sweat rates, and perception of sweat losses during CrossFit training. *International Journal of Exercise Science*, 9(5), 576-586.
<https://digitalcommons.wku.edu/cgi/viewcontent.cgi?article=1817&context=ijes>

Manuscripts in Review:

Simpson J., Stewart E., Turner A., Macias D., Chander H., & Knight A. Neuromuscular control in individuals with chronic ankle instability: A comparison of unexpected and expected ankle inversion perturbations during a single leg drop-landing. *Human Movement Science* (In Review).

Simpson J., Cosio-Lima L., Scudamore E., O'Neal E., Stewart E., Miller B., Chander H., & Knight A. Effects of external load training on countermovement jump and sprint performance. *International Journal of Sports Physiology and Performance* (In Review).

Simpson J., Stewart E., Rendos N., Cosio-Lima L., Wilson S., Macias D., Chander H., & Knight A. Anticipating ankle inversion perturbations during a single-leg drop landing alters ankle joint and impact kinetics. *Human Movement Science* (In Review).

Rendos N., Harriell K., Lew Feirman K., Potiaumpai M., **Simpson J.,** Ajibewa T., Signorile J. Field and laboratory tests of static and dynamic balance: Can they be used interchangeably?. *Journal of Sport Rehabilitation* (In Review).

Stewart E., Smidebush M., **Simpson J.,** Knight A., Chander H., & Shapiro R. Start times of swing phases in baseball hitters of varying skill. *International Journal of Exercise Science* (In Review).

Hill C., DeBusk H., **Simpson J.,** Miller B., Knight A., Wade C., Garner J., & Chander H. The interaction of cognitive interferences, standing surface, and fatigue on lower extremity muscle activity. *Safety and Health at Work* (In Review).

Manuscripts in Preparation:

Simpson J., Stewart E., Turner A., Rendos N., Wilson S., Macias D., Chander H., & Knight A. Chronic ankle instability alters spatiotemporal postural control during a Lateral Step-Down Test. *Journal of Athletic Training* (In preparation).

Simpson J., Stewart E., Rendos N., Wilson S., Macias D., Chander H., & Knight A. Lower limb biomechanics during a simulated lateral ankle sprain in individuals with chronic ankle instability. *Clinical Biomechanics* (In preparation).

Simpson J., Stewart E., Rendos N., Wilson S., Macias D., Chander H., & Knight A. Muscle activation during functional and dynamic movements in individuals with chronic ankle instability. *Journal of Electromyography and Kinesiology* (In preparation).

Simpson J., Rendos N., Wilson S. Let's keep it 'rolling': A review of lateral ankle sprain mechanics and considerations for injury simulations in laboratory research. *Foot & Ankle International* (In preparation).

Knight A., **Simpson J.**, Rendos N., Wilson S. Stewart E., Quigley M., Macias D., & Chander H. Lower extremity muscle activity during expected and unexpected ankle inversion perturbations using a new experimental protocol. *Journal of Electromyography and Kinesiology* (In preparation).

Stewart E., Smidebush M., **Simpson J.**, Knight A., Chander H., & Shapiro R. Analysis of muscle activity for baseball hitters of varying skill. *Sports Biomechanics* (In preparation).

Miller B., **Simpson J.**, Chander H., & Knight A. A comparison of two Vibram footwear on balance. *Footwear Science* (In preparation).

Green J., **Simpson J.**, & Miller B. Velocity and heart rate during RPE production at sea level vs. altitude. (In preparation).

Published Abstracts, Conference Proceedings, and Professional Presentations:

† denotes student mentored project

Simpson J., Stewart E., Turner A., Rendos N., Lee Y., Cosio-Lima L., Chander H., & Knight A. Chronic ankle instability alters spatiotemporal postural control during a Lateral Step-Down Test. *Poster presentation at Southeast ACSM Annual Meeting, Greenville, SC, February 2019.*

†Grammer E., **Simpson J.**, Cosio-Lima L., Lee Y., Rendos N., Stewart E., Chander H. & Knight A. Latency of the peroneus longus and peroneus brevis during unexpected and expected inversion perturbations. *Poster presentation at Southeast ACSM Annual Meeting, Greenville, SC, February 2019.*

†Lewis J., **Simpson J.**, Rendos N., Lee Y., Cosio-Lima L., Stewart E., Chander H., & Knight A. Assessment of ankle muscle activity during unexpected and expected inversion perturbations. *Thematic poster presentation at Southeast ACSM Annual Meeting, Greenville, SC, February 2019.*

†Arnett J., **Simpson J.**, Cosio-Lima L., Lee Y., Rendos N., Stewart E., Chander H. & Knight A. Ground reaction forces during single-leg drop landings on an inverted surface. *Poster presentation at Southeast ACSM Annual Meeting, Greenville, SC, February 2019.*

†Bass M., **Simpson J.**, Stewart E., Turner A., Chander H., & Knight A. Ankle kinematics in individuals with chronic ankle instability during unexpected and expected drop landings. *Poster presentation at Southeast ACSM Annual Meeting, Greenville, SC, February 2019.*

Cosio-Lima L., Grammer E., Addie C., Straughn M., Adlof L., **Simpson J.**, Lee Y. ECG stress testing as a screening tool for sudden cardiac death in Division II athletes: A pilot study. *Poster presentation at Southeast ACSM Annual Meeting, Greenville, SC, February 2019.*

†Straughn M., Addie C., Ramos G., Neltner T., Grammer E., **Simpson J.**, Cosio-Lima L., Greska E., Brown L. No effect of starting height on rebound vertical jump. *Poster presentation at Southeast ACSM Annual Meeting, Greenville, SC, February 2019.*

†Addie C., Grammer E., Straughn M., Ramos G., Neltner T., **Simpson J.**, Cosio-Lima L., Greska E., Brown L. Effect of depth jump height on lower extremity muscle activation. *Thematic poster presentation at Southeast ACSM Annual Meeting, Greenville, SC, February 2019.*

Pace M., Swain J., Sharp D., Albino R., Green J., Killen L., Chander H., **Simpson J.**, & O'Neal E. Minimalist style military boot improves running economy under load in trained males. *Masters student award finalist at Southeast ACSM Annual Meeting, Greenville, SC, February 2019.*

Sharp D., Pace M., Swain J., Albino R., Green J., Killen L., Chander H., **Simpson J.**, & O'Neal E. Minimalist style military boot does not improve walking economy under load in trained males.

Wilson S., Donahue P., Hill C., Williams C., **Simpson J.**, Siekirk N., Garner J. & Waddell DE. Novel evidence of cortical control in severe slip responses.

Stewart E., Smidebush M., **Simpson J.**, Knight A., Chander H., Shapiro R. Quantification of GRFx and GRFy for skilled versus recreational baseball hitters.

Lowell R., Roper J., McCarthy A., Nelson H., Phillips M., Frech A., Blackley A., de Moors M., Sullivan P., Ziebell B., Hornsby J., **Simpson J.**, Titcomb D., Bosak A. The effects of ankle taping on double leg balance after plyometric exercises. *Poster presentation at Southeast ACSM Annual Meeting, Greenville, SC, February 2019.*

†Balducci B., **Simpson J.**, Chander H., Stewart E., Lee T., & Macias D. Influence of unexpected and expected ankle inversion perturbations on the latency of the peroneus longus and peroneus brevis. *Poster presentation at Shackouls Honors College Undergraduate Research Symposium, Mississippi State University, August 2018.*

†Lee T., **Simpson J.**, Chander H., Stewart E., Balducci B., & Macias D. Muscle activation of the ankle musculature: A comparison of unexpected and expected single leg landings on a tilted surface. *Poster presentation at Shackouls Honors College Undergraduate Research Symposium, Mississippi State University, August 2018.*

†Quigley M., **Simpson J.**, Stewart E., Macias D., Chander H., & Knight A. Ankle kinematics during unilateral landings on a tilted surface: Simulating the mechanism of a lateral ankle sprain. *Poster presentation at College of Education Research Forum, Mississippi State University, April 2018.*

Simpson J., Scudamore E., & O'Neal E. Chronic External Loading During Daily Living: A "Lost" Training Strategy to Improve the Force-Velocity Curve. *Symposium Session: Southeast ACSM Annual Meeting, Chattanooga, TN, February 2018.*

Simpson J., Stewart E., Smidebush M., Knight A., Chander H., & Shapiro R. Analysis of Vertical Ground Reaction Forces During the Baseball Swing in Hitters of Different Skill Level. *Poster presentation at Southeast ACSM Annual Meeting, Chattanooga, TN, February 2018.*

Stewart E., Smidebush M., **Simpson J.**, Knight A., Chander H., & Shapiro R. Analysis of the Start Times for the Swing Phases for Baseball Hitter of Varying Skill. *Poster presentation at Southeast ACSM Annual Meeting, Chattanooga, TN, February 2018.*

Simpson J., DeBusk H., Hill C., Miller B., Knight A., & Chander H. Effect of Military Footwear Type on Ankle Stability Following a Simulated Military Workload. *Abstracted: Proceedings of the 41st American Society of Biomechanics Annual Meeting, Boulder, CO, Aug 8-11, 2017.*

J.D. Simpson, B.L. Miller, H. Chander, & A.C. Knight. Assessment of Ground Reaction Forces During a Drop Vertical Jump Following Three weeks of External Load Training. *Social and Behavioral Sciences: Oral Presentation at the 15th Annual Graduate Student Research Symposium, Mississippi State University, Mississippi State, MS, March 2017.*

J.D. Simpson, B.L. Miller, E.K. O'Neal, H. Chander, & A.C. Knight. Analysis of Landing Kinetics During a Drop Vertical Jump After Three Weeks of External Load Training. *Thematic Poster Session: Biomechanics, Gait, and Balance at Southeast ACSM Annual Meeting, Greenville, SC, February 2017.*

†S.R. Forge, **J.D. Simpson**, B.L. Miller, E.K. O'Neal, H. Chander, & A.C. Knight. Changes in Jumping Kinetics Following Three Weeks of External Load Training in Well-Trained Women. *Poster presentation at Southeast ACSM Annual Meeting, Greenville, SC, February 2017.*

†P. Sutton, S. Forge, A. Mosby, J. McDaniel, B. Miller, **J. Simpson**, H. Chander, & A. Knight. Three-Week External Load Training Does Not Improve Vertical Jump and Sprint Performance in Well-Trained Women. *Poster presentation at Southeast ACSM Annual Meeting, Greenville, SC, February 2017.*

†A. Mosby, P. Sutton, S. Forge, J. McDaniel, B. Miller, **J. Simpson**, H. Chander, & A. Knight. Three-Weeks of External Load Training Does Not Alter Muscle Activity During Static Balance. *Poster presentation at Southeast ACSM Annual Meeting, Greenville, SC, February 2017.*

†J. McDaniel, S. Forge, P. Sutton, A. Mosby, B. Miller, **J. Simpson**, H. Chander, & A. Knight. Three Week External Load Training Does Not Increase Lower Extremity Muscle Activation in Well-Trained Females. *Poster presentation at Southeast ACSM Annual Meeting, Greenville, SC, February 2017.*

B.L. Miller, **J.D. Simpson**, J.C. Swain, M.T. Pace, R.K. Lowell, Z. Pan, A.C. Knight, & H. Chander. Effect of Minimalist Footwear and Fatigue on Static Balance. *Poster presentation at Southeast ACSM Annual Meeting, Greenville, SC, February 2017.*

J.C. Swain, B.L. Miller, M.T. Pace, R.K. Lowell, **J.D. Simpson**, A.C. Knight, & H. Chander. Impact of Minimalist Footwear Type and Fatigue on Balance. *Poster presentation at Southeast ACSM Annual Meeting, Greenville, SC, February 2017.*

A.J. Turner, H. DeBusk, R.K. Lowell, C.M. Hill, B.L. Miller, **J.D. Simpson**, A.C. Knight, & H. Chander. Effects of Military Type Footwear and Workload on Unilateral Static Balance. *Poster presentation at Southeast ACSM Annual Meeting, Greenville, SC, February 2017.*

Hill CM, DeBusk H, Stewart T, Miller BL, **Simpson JD**, Knight AC, & Chander H. Impact of Military Type Footwear and Workload on Co-Contraction Index in Static Balance. *Abstracted: Proceedings of the 40th American Society of Biomechanics Annual Meeting, Raleigh, NC, Aug 2-5, 2016.*

DeBusk H, Hill CM, Stewart T, Miller BL, **Simpson JD**, Knight AC & Chander H. Impact of High Top Military Type Boots on Balance. *Abstracted: Proceedings of the 40th American Society of Biomechanics Annual Meeting, Raleigh, NC, August 2-5, 2016.*

Simpson JD, Hill CM, DeBusk H, Stewart T, Miller BL, Knight AC, & Chander H. Influence of Military Boot Types and Physiological Workload on Lower Extremity Muscle Activation. *Poster presentation at Southeast ACSM Annual Meeting, Greenville, SC, February 2016.*

DeBusk H, Hill CM, Stewart T, Miller BL, **Simpson JD**, Knight AC, & Chander H. Effects of Military Type Footwear and Workload on Static Balance. *Poster presentation at Southeast ACSM Annual Meeting, Greenville, SC, 2016.*

Hill CM, DeBusk H, Stewart T, **Simpson JD**, Miller BL, Knight AC, & Chander H. Impact of Military Type

Footwear and Workload on Muscle Activity in Static Balance. *Poster presentation at Southeast ACSM Annual Meeting, Greenville, SC, February 2016.*

Miller BL, DeBusk H, Hill CM, Stewart T, **Simpson JD**, Knight AC, & Chander H. Impact of Military Boot Type and Physical Workload on Dynamic Balance. *Poster presentation at Southeast ACSM Annual Meeting, Greenville, SC, February 2016.*

Kelley A, Green JM, **Simpson JD**, & Miller BL. Velocity and HR During RPE Production at Sea Level vs. Altitude. *Poster presentation at Southeast ACSM Annual Meeting, Greenville, SC, February 2016.*

Seltmann C, Green JM, Miller BL, **Simpson JD**, Gann JJ, & Andre T. Dehydration effects lactate during constant-load cycling. *Poster presentation at Southeast ACSM Annual Meeting, Greenville, SC, February 2016.*

Keyes AA, Dubroc DR, Neal KK, Miller BL, **Simpson JD**, & O'Neal EK. Stability of urine specific gravity across time and temperature. *Presentation at Southeast ACSM Annual Meeting, Greenville, SC, February 2016.*

Simpson JD, Lowe J, Scudamore E, Stevenson C, Johnson S, Pribyslavskaya V, Langford T, Green J, O'Neal EK. 21 Days of Chronic Hypergravity Training Improves Tactical Athlete Anaerobic Tasks. *Poster presentation at University of North Alabama Research Day, Florence, AL, April 2015.*

Simpson JD, Lowe J, Scudamore E, Stevenson C, Johnson S, Pribyslavskaya V, Langford T, Green J, O'Neal EK. 21 Days of Chronic Hypergravity Training Improves Tactical Athlete Anaerobic Tasks. *Poster presentation at Southeast ACSM Annual Meeting, Jacksonville, FL, February 2015.*

Research Funding/Support (Total funding/support to date: ~\$13,000):

Simpson JD & Knight AC. Effects of Compressive Ankle Bracing Strategy on Ankle Stability During an Inversion Perturbation in Individuals with Chronic Ankle Instability. *Request submitted to the American Society of Biomechanics. (\$2,000 – Not Funded).*

Simpson JD & Knight AC. Impact of 3-Week External Load Training Intervention on Kinetics and Kinematics in Well-Trained Females. *Request submitted to Ironwear Fitness. (~\$5,000 – Funded).*

Simpson JD, Miller BL, Green JM. Velocity and HR During RPE Production at Sea Level vs. Altitude. *Request submitted to The University of North Alabama Graduate Research Program. (~\$3,000 – Funded).*

Simpson JD. Peru Study Abroad Program: Exercise and Nutritional Science. *Request submitted to PARTNERS of the AMERICAS, 100,000 Strong in the Americas Innovation Fund and UNA (\$2,500 – Funded).*

Simpson JD, Dubroc DD, O'Neal EK. Effects of 3-Week Hypergravity Training on Lactate Kinetics and Performance during Repeated Anaerobic Tasks. *Request submitted to TITIN Tech Inc. (~\$26,000 – Not Funded).*

Dubroc DD, **Simpson JD**, O'Neal EK. Effects of 3-Week Hypergravity Training on Athletic Specific Anaerobic Tasks. *Request submitted to TITIN Tech Inc. (~\$10,000 – Not Funded).*

Current Research Projects:

Biomechanics of functional and dynamic tasks in individuals with chronic ankle instability

- **Primary Investigator** – Preparing manuscripts for publication
- The purpose of this study is to investigate the impact of chronic ankle instability on biomechanical parameters of a single leg squat, lateral side-cut, and unilateral landing task using 3D motion capture, force platforms, and surface electromyography.

Functional and dynamic task performance in adolescent soccer athletes with a history of a lateral ankle sprain

- **Primary Investigator** – Obtaining IRB approval to start data collection
- The purpose of this project will be to conduct a comprehensive biomechanical analysis (kinematics, kinetics, and surface electromyography) of the Y-Balance Test, bilateral jump-landing, and side-cutting in high school soccer athletes with a history of a lateral ankle sprain(s).

Differences in lower extremity muscle activity and start times for swing phases for baseball hitters of varying competition level

- **Co-Investigator** – Currently recruiting participants and collecting data
- The purpose of this study is to investigate the differences between lower extremity muscle activation and timing for the swing phases between high school and collegiate baseball players.

Research Collaborations:

Nicole Rendos, Ph.D., LAT, ATC, CSCS, Associate Research Director of Sports Medicine, Andrews Research & Education Foundation

David M. Macias, M.D., Foot & Ankle Orthopaedic Surgeon, Department of Orthopaedic Surgery, Columbus Orthopaedic

Biomechanics Laboratory, Department of Health Sciences & Kinesiology, Georgia Southern University

Neuromechanics Laboratory, Department of Kinesiology, Mississippi State University

Human Performance Laboratory, Department of Health, Physical Education and Recreation, University of North Alabama

Professional Awards and Honors:

First Place: Undergraduate Poster Presentation (†Mitchell Quigley) – College of Education Research Forum, Mississippi State University, April 2018

Presentation Title: Ankle Kinematics During Unilateral Landings on a Tilted Surface: Simulating The Mechanism of a Lateral Ankle Sprain

First Place: Oral Presentation – Social and Behavioral Sciences at the 15th Annual Graduate Student Research Symposium, Mississippi State University, March 2017

Presentation Title: Assessment of Ground Reaction Forces During a Drop Vertical Jump Following Three weeks of External Load Training

2016-2017 Graduate Student Research Award

College of Education, Mississippi State University

First Place: Poster Presentation - Social and Behavioral Sciences at the 14th Annual Graduate Student Research Symposium, Mississippi State University, April 2016.

Presentation Title: Influence of Military Boot Types and Physiological Workload on Lower Extremity Muscle Activation

Professional Memberships:

American Society of Biomechanics – *Student/Professional Member*

January 2017 – present

Southeast Chapter of the American College of Sports Medicine (SEACSM) – *Professional Member*
January 2015 – present

PROFESSIONAL DEVELOPMENT AND SERVICE:

2017 – present **Department of Orthopaedic Surgery, Columbus Orthopaedic**

David M. Macias, M.D. – Foot & Ankle Orthopaedic Surgeon

- Established and maintained a collaborative research effort with Dr. Macias.
- Observed lateral ankle ligament reconstruction surgeries and participated in cadaver dissections of the foot/ankle complex with Dr. Macias.

2016 – 2018

Neuromechanics Research Core (NRC), Mississippi State University

Research Advisor for Undergraduate Students

- Instruct undergraduate students on proper laboratory equipment use (i.e. force platforms, electromyography, and motion analysis), data collection procedures and analysis of kinetic and kinematic data.
- Assist/supervise undergraduate students conducting ongoing biomechanics research in the Neuromechanics Laboratory.

2014 – present **Human Performance Research Group, University of North Alabama**

Biomechanics Research Advisor

- Collaborate with professors and students on human performance research projects being conducted in the Human Performance Laboratory at UNA.
- Teach and instruct professors/students on basic kinematic and kinetic data analysis using force platforms and 2D motion analysis software.

June 2015

Peru Study Abroad Program, University of North Alabama

Universidad San Ignacio de Loyola, Lima & Cusco, Peru

- Participated in a study abroad program focused on exercise science as part the Master of Science curriculum at the University of North Alabama.
- Completed a grant funded research project as a co-investigator examining physiological responses of acute altitude exposure during treadmill RPE production trials. (Manuscript in preparation).

Student Mentorship/Advising:

Emily Grammer (Master's Student)

- University of West Florida, Department of Exercise Science & Community Health
- Thesis Committee Member, 2018-2019
- Thesis Title: Neuromuscular control during a soccer specific jump-landing in adolescent athletes with a history of a lateral ankle sprain

Cameron Addie (Master's Student)

- University of West Florida, Department of Exercise Science & Community Health
- Thesis Committee Member, 2018-2019
- Thesis Title: Effects of drop height on reactive strength index

Marisa Straughn (Master's Student)

- University of West Florida, Department of Exercise Science & Community Health
- Thesis Committee Member, 2018-2019

- Thesis Title: Validity of GymAware with Olympic Lifts

John Lewis (Undergraduate Student)

- University of West Florida, Department of Exercise Science & Community Health
- Chair – Independent Study
- Independent Study Title: Muscle activity during the Y-Balance Test in adolescent athletes with a history of a lateral ankle sprain

Manuscript Reviewer:

- International Journal of Exercise Science
- Strength & Conditioning Journal
- Physical Therapy in Sport
- The Foot
- Journal of Sport Rehabilitation

National and Regional Conferences Attended:

American Society of Biomechanics (ASB) Conference

- 41st Annual Meeting, University of Colorado, Boulder, CO

Southeastern American College of Sports Medicine (SEACSM) Regional Conference

- Greenville, SC – February 2019 (planning to attend)
- Chattanooga, TN – February 2018
- Greenville, SC – February 2017
- Greenville, SC – February 2016
- Jacksonville, FL – February 2015

Invited Presentations, Lectures, and Symposiums:

Fall 2017

Department of Health, Physical Education, and Recreation

Human Performance Research Group, University of North Alabama

- Invited speaker on ankle sprain mechanics and chronic ankle instability.
- Taught faculty/student on 2D motion analysis using MaxTRAQ software.

Summer 2017

EP 4703: Neural Control of Human Movement, Mississippi State University

Skeletal Muscle, Nerve-Muscle Synapse

- Discussed the neural mechanisms and properties of skeletal muscle contraction.

Spring 2017

PE 4283: Sports Biomechanics, Mississippi State University

Injury Mechanisms in Sports Biomechanics

- Discussed a general overview of associated injury mechanisms in athletics.

Spring 2017

EP 4503: Mechanical Analysis of Human Movement, Mississippi State University

Projectile Motion, Momentum, and Impulse

- Discussed mathematical equations and applications of constant acceleration, momentum, and impulse to human movement.

Summer 2016

EP 3233: Anatomical Kinesiology, Mississippi State University

Human Foot and Ankle Complex

- Discussed structure, function, and musculoskeletal anatomy of the human foot/ankle complex.

Spring 2016

EP 3233: Anatomical Kinesiology, Mississippi State University

Skeletal Muscle Mechanics

- Discussed structure and function of skeletal muscle tissue and the application of muscle contraction types related to human movement.

Fall 2015

EP 3233: Anatomical Kinesiology, Mississippi State University

Elbow/Wrist/Hand

- Discussed structure, function, and musculoskeletal anatomy of the human elbow, wrist, and hand.

Professional References:

Adam Knight, Ph.D., ATC, CSCS

Associate Professor, Co-Director of Neuromechanics Laboratory
Department of Kinesiology
Mississippi State University
Mississippi State, MS 39762
Email: aknight@colled.msstate.edu
Phone: (334) 332 – 0002

Harish Chander, Ph.D.

Committee Member
Assistant Professor, Co-Director of Neuromechanics Laboratory
Department of Kinesiology
Mississippi State University
Mississippi State, MS 39762
Email: hchander@colled.msstate.edu
Phone: (662) 202 – 7977

Matt Green, Ph.D.

Interim Chair, Director of Human Performance Laboratory
Department of Health, Physical Education and Recreation
University of North Alabama
Florence, AL 35632
Email: jmgreen@una.edu
Phone (256) 765 – 4554

Eric O'Neal, Ph.D., CSCS

Associate Professor
Department of Health, Physical Education and Recreation
University of North Alabama
Florence, AL 35632
Email: eonell@una.edu
Phone: (256) 765 -4555

Eric Scudamore, Ph.D., CSCS

Assistant Professor,
Department of Health, Physical Education, and Sport Sciences
Arkansas State University
Jonesboro, AR 72401
Email: escudamore@astate.edu
Phone: (256) 509 – 7177