

**Patrick R. Davis Ph.D.**  
Assistant Professor  
Sam Houston State University  
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**Education**

- Ph.D. Bioenergetics and Exercise Science; 2015  
Department of Kinesiology; East Carolina University, Greenville, NC
- B.S. Exercise Science; 2008  
Department of Exercise Science; Brigham Young University, Provo, UT

**University Teaching Experience**

Sam Houston State University, Department of Kinesiology  
KINE 3373 – Physiology of Exercise (Face-to-face, On-line)  
KINE 4373 – Advanced Physiology of Exercise (On-line)  
KINE 4377 – Principles of Exercise Testing and Prescription

East Carolina University, Department of Kinesiology  
EXSS 3805 – Physiology of Exercise

Brigham Young University, Department of Exercise Science  
EXSC 464 – Exercise Physiology Lab  
EXSC 191 – Weight Training  
EXSC 186/187 – Beginning and Intermediate Volleyball  
EXSC 131 – Golf  
EXSC 106 – Badminton  
EXSC 116 – Bowling

**Relevant Research Experience**

2016-Current Sam Houston State University  
Muscle Physiology Lab Director  
I oversaw the creation of a new laboratory within the Kinesiology Department, including purchasing and installation of all equipment.

- 2015-2016 East Carolina University Post-Doctoral Fellow  
Mentor – Carol Witczak Ph.D.  
My research focused on examining the exercise mediated glucose transportation into skeletal muscle and its relationship to insulin resistance and diabetes. I utilized both cell culture and knock-out mouse lines.
- 2011-2015 East Carolina University Graduate Research Assistant  
Mentor – Jeffrey Brault Ph.D.  
Dissertation: AMP Deaminase 3 in Skeletal Muscle Atrophy: Regulation of Protein Degradation and Contractile Performance
- 2009-2010 Brigham Young University Graduate Research Assistant  
I conducted experiments that examined muscle activation patterns and resultant fatigue during a 40-km TT when ridden on a triathlon/TT bicycle vs. a road bicycle.

### **Grant Funding**

Sam Houston State University, 2018  
Enhancement Research Grant  
*The effects of AMP-Deaminase on glucose uptake in skeletal muscle*  
Role: Principle Investigator  
\$15,000 (Funded)

Sam Houston State University, 2018  
Faculty and Student Team Grant  
*Validity of the VO2 Master metabolic system in an outdoor environment*  
Role: Principle Investigator  
\$8,306 (Funded)

Sam Houston State University, 2017  
Teaching Improvement Grant  
*Introducing Undergraduate Students to Kinesiology Using Team-based Learning*  
Role: Co-Investigator  
\$6,500 (Funded)

American College of Sports Medicine, 2012  
Foundation Doctoral Student Research Grant  
*Regulation of mitochondria and fatigue during muscle atrophy*  
Role: Principle Investigator  
\$5000 (Funded)

### **Student Mentoring Experience**

#### Graduate

Masters Thesis Committee Chair (Student John Yakel)  
SmO<sub>2</sub> recovery time differences in front vs back squats

#### Undergraduate

Katherine Costello & Darrel Woods  
Validation of the VO<sub>2</sub> Master Metabolic System

### **Professional Experience**

- 2014- Independent Cycling Coach  
Consult with cyclists about training goals and personal performance.  
Developed training plans and workouts based on the latest power based training technologies.
- 2014-2015 Bioenergetics Research Interest Group – Founder/President  
Founded a group for graduate students to present and question research with peers.  
Secured ongoing departmental funding to help start and support the group.
- 2013-2015 International Journal of Sports Medicine – Associate Editor  
Identify, invite, and assign reviewers for submitted manuscripts.  
Make final publication decisions based on reviewer's recommendations.
- 2009 Gold's Gym – Personal Trainer  
Delivered personalized fitness instruction to meet client's goals.  
Provided weight lifting and other fitness apparatus instruction.

### **Publications**

Roseno, S.L.; Davis, P.R.; Bollinger, L; Powell, J.P.; Witczak, C.A.; Brault, J.J. Short-term, high-fat diet accelerates disuse atrophy and protein degradation in a muscle-specific manner in mice. Accepted Oct 2015: Nutrition & Metabolism

Davis, P.R.; Witczak, C.A.; Brault, J.J. Inhibition of protein degradation through the proteasome when ATP is reduced and free energy maintained. In final preparation for the Biochemical Journal

### **Meeting Abstracts**

Williams, M.L.; Wagner, M.C.; Davis, P.R.; Anderson, D.; Melhorn, K. The relationship between Hamstring/Quadriceps strength and field test measures in collegiate track athletes. ACSM Annual Meeting, Denver, CO; May 2017

Davis, P.R.; Klip, A.; Niu W.; Witczak, C.A. CaMKK $\alpha$  signaling increases GLUT4 translocation to the plasma membrane in skeletal muscle. Research and Creative Achievement Week, Greenville, NC; East Carolina University April 2016

Davis, P.R.; Witczak, C.A.; Brault, J.J. AMP Deaminase 3 Overexpression Accelerates Protein Degradation in C2C12 Myotubes. Experimental Biology, Boston, MA; April 2015 FASEB vol 29 no 1 Supplement 825.2

Davis, P.R.; Witczak, C.A.; Brault, J.J. Accelerated Nucleotide Degradation induces atrophy in muscle. Research and Creative Achievement Week, Greenville, NC; East Carolina University March 2015

Davis, P.R.; Witczak, C.A.; Brault, J.J. Skeletal muscle function during high intensity contractions is improved by increased AMP Deaminase expression. Research and Creative Achievement Week, Greenville, NC; East Carolina University March 2014

Davis, P.R.; Witczak, C.A.; Brault, J.J. AMP Deaminase overexpression improves skeletal muscle relaxation kinetics during high energy demands. Advances in Skeletal Muscle Biology and Disease, Gainesville, FL; March 2014

### **Seminar Presentations/Guest Lectures**

AMP signaling during skeletal muscle atrophy. Bioenergetics Research Interest Group. East Carolina University, Greenville, NC 2014

Free energy maintenance by AMP deaminase. Bioenergetics Research Interest Group. East Carolina University, Greenville, NC 2014

Does AMP degradation influence skeletal muscle contractile performance and mitochondrial content? Joint Metabolism Meeting. East Carolina Diabetes and Obesity Institute. East Carolina University, Greenville, NC 2014

Cellular energetics and skeletal muscle atrophy. Joint Metabolism Meeting. East Carolina Diabetes and Obesity Institute. East Carolina University, Greenville, NC 2013

Guest Lecturer Diabetes and Exercise. EXSS 3805 East Carolina University, Greenville, NC 2013

### **Reviewer For Professional Journals**

International Journal of Sports Medicine

### **Honors**

2011-2015 Graduate Student Scholarship, East Carolina University

2014 & 2015 East Carolina University Graduate School Travel Award

2009-2011 Graduate Student Teaching Assistantship, Brigham Young University

2009-2010 Graduate Student Research Assistantship, Brigham Young University

### **Volunteer Experience**

Scoutmaster 2016-Current

Assistant Scoutmaster 2012-2016