

# Auni Williams, M.S.

## Curriculum Vitae

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### EDUCATION:

**Ph.D. in Kinesiology** Pennsylvania State University, 2026. *GPA: 3.63*

Mentor: Lacy M. Alexander, PhD, Professor in the Department of Kinesiology

**M.S. in Kinesiology** Kansas State University, 2021. *GPA: 3.76*

Mentor: Steven W. Copp, PhD, Associate Professor in the Department of Kinesiology

Thesis: Role of bradykinin receptor B2 in mechanoreflex activation in the rat model of peripheral artery disease.

**B.S. in Kinesiology** Kansas State University, 2020. *GPA: 3.71*

### POSITIONS:

- 2021- Graduate Research Assistant, Pennsylvania State University
- 2020-2021 Graduate Teaching Assistant, Kansas State University Dept. of Kinesiology
- 2020-2021 Graduate Research Assistant, Kansas State University Dept. of Kinesiology
- 2018-2020 Tutor and Academic Mentor, Kansas State University Athletics Dept.
- 2018 Tutor, University of Kansas Academic Achievement and Access Center
- 2016-2020 Certified Nurse Aide, Harper Hospital/Patterson Health Center, Harper, KS

### RESEARCH EXPERIENCE:

**Research Assistant** Department of Kinesiology, Microvascular and Thermoregulatory Physiology Lab, Pennsylvania State University, December 2021 – Present

- Earned certification in intradermal microdialysis technique and performing *in vivo* microdialysis, laser Doppler flowmetry, and local heating protocols on human subjects in studies investigating microvascular consequences of endometriosis and COVID-19
- Assisting in designing protocol for experimental testing of the effect of topical cannabidiol on reflex neurovascular response to iontophoresis stimulation
- Performing peripheral blood mononuclear cell isolation for inflammatory cytokine analysis
- Performing analyses of flow-mediated dilation ultrasound imaging
- Gaining experience drafting and submitting Institutional Review Board and FDA Investigational Drug (IND) applications
- Gaining experience in data and statistical analysis using Power Lab/Lab Chart data acquisition and Graph Pad Prism softwares

**Research Assistant** Department of Kinesiology, Autonomic Neurophysiology Lab, Kansas State University, February 2020 – July 2021

- Performed survival and non-survival rodent surgeries such as tracheotomies, femoral artery ligations, blood vessel cannulations, skeletal muscle isolation and exposure and blunt dissection
- Performed *in vivo* experiment protocols for rodent model of exercise in peripheral artery disease. Gained experience with Power Lab/Lab Chart data acquisition system.
- Assisted in *ex vivo* cellular data collections including protein isolation, western blots, and polymerase chain reaction
- Orchestrated rodent treadmill running acclimatization and assisted in experiments examining pressor response adjustments to treadmill running with pharmacological intervention
- Performed data and statistical analysis using Graph Pad Prism software

## PEER-REVIEWED PUBLICATIONS:

1. Butenas ALE, Rollins KS, Williams AC, Parr SK, Hammond ST, Ade CJ, Hageman KS, Musch TI, Copp SW. Thromboxane A2 receptors contribute to the exaggerated exercise pressor reflex in male rats with heart failure. *Physiol Rep*. 2021 Sep;9(18):e15052. Doi: 10.14814/phy2.15052. PMID: 34558221.
2. Rollins KS, Butenas ALE, Williams AC, Copp SW. Sensory neuron inositol-1,4,5-trisphosphate (IP3) receptors contribute to chronic mechanoreflex sensitization in rats with simulated peripheral artery disease. *Am J Physiol Regul Integr Comp Physiol*. 2021 Sep 8. Doi: 10.1152/ajpregu.00165.2021. Epub ahead of print. PMID: 34494467.
3. Butenas ALE, Rollins KS, Williams AC, Parr SK, Hammond ST, Ade CJ, Hageman KS, Musch TI, Copp SW. Exaggerated sympathetic and cardiovascular responses to dynamic mechanoreflex activation in rats with heart failure: role of endoperoxide 4 and thromboxane A2 receptors. *Auton Neurosci*. 2021 Feb 13;232:102784. Doi: 10.1016/j.autneu.2021.102784. Epub ahead of print. PMID: 33610008.
4. Butenas ALE, Rollins KS, Matney JE, Williams AC, Kleweno TE, Parr SK, Hammond ST, Ade CJ, Hageman KS, Musch TI, Copp SW. No effect of endoperoxide 4 or thromboxane A2 receptor blockade on static mechanoreflex activation in rats with heart failure. *Exp Physiol*. 2020 Sep 21. Doi: 10.1113/EP088835. Epub ahead of print. PMID: 32954541.
5. Rollins KS, Butenas ALE, Felice KP, Matney JE, Williams AC, Kleweno TE, Copp SW. Thromboxane A2 receptors mediate chronic mechanoreflex sensitization in a rat model of simulated peripheral artery disease. *Am J Physiol Heart Circ Physiol*. 2020 Aug 1;319(2):H320-H330. Doi: 10.1152/ajpheart.00255.2020. Epub 2020 Jun 12. PMID: 32530751; PMCID: PMC7473920.

## MANUSCRIPTS IN PREPARATION:

1. Dillon, GA, Williams AC, Alexander, LM. Prior covid infection does not affect microvascular function in older adults. *In preparation*.
2. Butenas ALE, Rollins KS, Williams AC, Copp SW. Role of bradykinin 2 receptors in the exaggerated exercise pressor reflex in a rat model of simulated peripheral artery disease. *In preparation*.
3. Rollins KS, Butenas ALE, Matney JE, Williams AC, Kleweno TE, Copp SW. Inositol-1,4,5-trisphosphate receptor inhibition reduces the exaggerated mechanoreflex in a ligated rat model of simulated peripheral artery disease. *In preparation*.

## TEACHING EXPERIENCE:

**Graduate Teaching Assistant** Kansas State University Kinesiology Department, Aug 2020 – May 2021

- Taught lab portions of Biological Bases of Physical Activity, covering components of physical activity such as behavior, biomechanics, anatomy, and physiology
- Taught Physiology of Exercise Labs: lecturing on physiological phenomena associated with exercise in healthy, trained, and diseased states; leading hands-on activities; instigating group discussions which integrate concepts of muscular, cardiopulmonary, cardiovascular, and nervous system physiology
- Assisted in transitioning lab courses to hybrid course model during COVID-19 pandemic
- Instructed practicum students in lecture and leadership methods

**Tutor & Academic Mentor** Kansas State University Athletics Department, Aug 2018 – Jul 2020

- Tutored student athletes in kinesiology courses one-on-one
- Organized and conducted large group exam review sessions
- Mentored student athletes through academic development

**Tutor** University of Kansas Academic Achievement and Access Center, Jan 2018 – May 2018

- Tutored individual and small groups of undergraduate students in anatomy and physiology courses
- Earned Level I Tutor Certification through University of Kansas and International College Reading and Learning Association training