

College of Veterinary Medicine

Chastity Bradford, Ph.D.

Assistant Professor

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EDUCATION/TRAINING

Institution and Location	Degree	Graduation Year	Major
University of Alabama-Birmingham	Ph.D.	2005	Cellular and Molecular Physiology
Spelman College, Atlanta, GA	Bachelor of Science	1999	Biology

TEACHING

- Animal Physiology
- Animal Physiology Laboratory
- Introduction to Research
- Undergraduate Research
- Cell and Genetic Biology
- Integrative Biosciences Literature Review

RESEARCH INTERESTS

The Renin Angiotensin System (RAS) Controls Blood Pressure and Blood Volume, and it has been the target of blood pressure control for years. Inhibiting components of this system (ie. Angiotensin Converting Enzyme 1/ACE1) with ACE Inhibitors, such as captopril, has been the gold standard for hypertension and heart failure. Yet, these specific therapies are responsible for major life threatening side effects in African American patients. They promote angioedema, swelling of airway, tongue, lips, and/or mouth. Our lab has discovered that there is a critical balance between two key enzymes in this system; Angiotensin Converting Enzyme 2 and ACE1, and we have the following goals: 1) identify other targets of the RAS system that produce similar protective effects as the pharmacological therapies that are currently being administered and 2) increase awareness about Blood Pressure Control and healthy lifestyles.

RECENT PUBLICATIONS

1. [Katz DP¹](#), [Majrashi M^{1,2}](#), [Ramesh S¹](#), [Govindarajulu M¹](#), [Bhattacharya D¹](#), [Bhattacharya S¹](#), [Shlghom A³](#), [Bradford C³](#), [Suppiramaniam V¹](#), [Deruiter J¹](#), [Clark CR¹](#), [Dhanasekaran M¹](#) Comparing the dopaminergic neurotoxic effects of benzylpiperazine and benzoylpiperazine. *Toxicol Mech Methods*. 2018 Mar;28(3):177-186. doi: 10.1080/15376516.2017.1376024. Epub 2017 Sep 28.
2. Ian Hunter, Amanda Soler, Gregory Joseph, Brenda Hutcheson, [Chastity Bradford](#), Frank Zhang, Barry J Potter, Spencer D. Proctor, Petra Rocic. Cardiovascular function in male and female JCR:LA-cp rats: Effect of high fat/high sucrose diet *American Journal of Physiology - Heart and Circulatory Physiology* Jan,2017, *ajpheart*.00535.2016; **DOI:** 10.1152/ajpheart.00535.2016
3. Gregory Joseph, Amanda Soler, Rebecca Hutcheson, Ian Hunter, [Chastity](#)

Bradford, Brenda Hutcheson, Katherine H. Gotlinger, Houli Jiang, John R. Falck, Spencer Proctor, Michal Laniado Schwartzman, Petra Rocic. Elevated 20-HETE impairs coronary collateral growth in metabolic syndrome via endothelial dysfunction American Journal of Physiology - Heart and Circulatory Physiology Mar 2017, 312 (3) H528-H540; DOI: 10.1152/ajpheart.00561.2016

4. Multi-Institutional, Multidisciplinary Study of the Impact of Course-Based Research Experiences C.M. Mader, C.W. Beck, W.H. Grillo, G.P. Hollowell, B.S. Hennington, N.L. Staub, V.A. Delesalle, D. Lello, R.B. Merritt, G.D. Griffin, C. Bradford, J. Mao, L.S. Blumer, S.L. White 2017 JOURNAL OF MICROBIOLOGY & BIOLOGY EDUCATION DOI: <https://doi.org/10.1128/jmbe.v18i2.1317>

SERVICE ACTIVITIES

- Preventing Obesity in Macon and Bullock K-6 Schools and Community
- As a Math and Science Faculty Fellow in the Black Belt Region, I have created 7th grade life science modules: (Super Mario Bros. DNA vs RNA, Sickle Cell the Sticky Cell, It's Genetics, Punnett Square Shuffle, and Wanted Dead or Alive) to improve science test scores in the black belt.
- Creating reading programs and purchasing books for all Macon County Elementary Schools