

EVANGELINE DEER, PH.D.

Department of Pharmacology & Toxicology
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CURRICULUM VITAE

EDUCATION

Doctor of Philosophy, 2019, Jackson State University
Major: Environmental Science/Toxicology

Master of Science, 2009, Mississippi College
Major: Biology

Bachelor of Science, 2008, Tougaloo College
Major: Biology

ACADEMIC POSITIONS

2021- Present	Instructor - Department of Pharmacology & Toxicology, UMMC
2018-2021	Postdoctoral Research Fellow - Department of Pharmacology & Toxicology, UMMC
2012-2018	Graduate Research Assistant - Department of Biology, JSU
2008-2009	Research Investigator - Department of Biology, Tougaloo College/Mississippi College
2006	Research Fellow - Department of Biology, Rhodes College
2004-2006	Research Assistant - Department of Biology, Tougaloo College
2004-2006	Research Assistant - Department of Biology, Tougaloo College

HONORS AND SCHOLARSHIPS

2021	President's New Investigator Plenary Award , Society for Reproductive Investigation
2021	Cardiovascular Section Steven M. Horvath Professional Opportunity Award , APS
2020	AFHRE Travel Grants for Support of Underrepresented Minorities , Council on Hypertension
2020	Caroline tum Suden/Frances Hellebrandt Professional Opportunity Award , APS
2018	Beta Kappa Chi Scientific Honor Society Inductee , JSU
2018	Alpha Epsilon Lambda Honor Society Inductee , JSU
2002	Bill Gates Millennium Scholar (Alumna)
2008	National Collegiate Honor Society Inductee , Mississippi College
2002	Alpha Lambda Delta Honor Society Inductee , Tougaloo College
2002	Presidential Scholarship , Tougaloo College

RESEARCH SUPPORT

9/2018-9/2021 NIH/NHLBI – T32HL105324 Granger (PI)
Hypertension and Cardiorenal Diseases Research Training Program
Role: Trainee

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TEACHING EXPERIENCE

2021- **Discussion Assistant Leader**, Journal Club, UMMC
2017-2018 **Instructor**, Principles of Biology I (4.0 credit hours), Holmes Community College
2016 **Teaching Assistant**, Microbiology, JSU
2014-2016 **Instructor**, General Biology Lab, JSU

MENTORING ACTIVITIES

2020- Present	Nathan Campbell	Pharmacology Graduate Student
2019- Present	Sarah Fitzgerald	Pharmacology Graduate Student
2019- Present	Owen Herrock	Pharmacology Graduate Student
2019- Present	James Hogg	MFM Fellow
2019	Jalisa Jones	MS IBRE Scholar

LEADERSHIP AND SERVICE ACTIVITIES

2021- Present BiP Programming Committee
2019- Present University of Mississippi Postdoctoral Studies Advisory Committee (UMMC)
2012- Present Mississippi Science and Engineering Region II (MSEF) Fair Judge

PROFESSIONAL SOCIETY MEMBERSHIPS

2019- Present Member, American Heart Association (AHA)
2019- Present Member, American Physiological Society (APS)
2018- Present Member, Group on Women in Medicine and Science (GWIMS)
2011- Present Member, American Association for the Advancement of Science (AAAS)
2011- Present Member, Association of Southeastern Biologists (ASB)

AD HOC REVIEWER

BMC Pregnancy and Childbirth

PUBLICATIONS

1. **Deer EM**, Phillips CL, Welch BA, Himel AR, Duncan BC, Spann RA, Grayson BE. Dysregulated appetitive leptin signaling in male rodent offspring from post-bariatric dams. *Current Research in Physiology*. 2020 Dec 8.
2. **Deer E**, Reeve KE, Amaral LM, Vaka VR, Franks M, Campbell N, Fitzgerald S, Herrock OT, Ibrahim T, Cornelius DC, LaMarca BD. CD4+ T Cells cause Renal & Placental Mitochondrial Oxidative Stress as mechanisms of hypertension in response to placental ischemia. *Am J Physiol Renal Physiol*. 2020 Nov 16. doi: 10.1152/ajprenal.00398.2020.
3. **Deer E**, Vaka VR, McMaster KM, Wallace K, Cornelius DC, Amaral LM, Cunningham M, LaMarca B. Vascular Endothelial Mitochondrial Oxidative Stress in response to Preeclampsia; A role for AT1-AAAs. *American Journal of Obstetrics & Gynecology MFM*. 2020 Oct 27:100275.
4. **Deer EM**, Welch B, Hernandez LL, Seeley RJ, Grayson BE. Nutrient and hormone composition of milk is altered in rodent dams post-bariatric surgery. *Journal of Developmental Origins of Health and Disease*. 2020 Feb;11(1):71-7.

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5. Jayaram A, **Deer E**, Amaral LM, Campbell N, Vaka VR, Cunningham M, Ibrahim T, Cornelius DC, LaMarca BB. The role of tumor necrosis factor in triggering activation of natural killer cell, multi-organ mitochondrial dysfunction and hypertension during pregnancy. *Pregnancy Hypertension*. 2021 Jun 1;24:65-72.
6. Cunningham MW, Jayaram A, **Deer E**, Amaral LM, Vaka VR, Ibrahim T, Cornelius DC, LaMarca B. Tumor necrosis factor alpha (TNF- α) blockade improves natural killer cell (NK) activation, hypertension, and mitochondrial oxidative stress in a preclinical rat model of preeclampsia. *Hypertension in Pregnancy*. 2020 Jul 11:1-6.
7. Vaka VR, Cunningham MW, **Deer E**, Franks M, Ibrahim T, Amaral LM, Usry N, Cornelius DC, Dechend R, Wallukat G, LaMarca BD. Blockade of endogenous angiotensin II type I receptor agonistic autoantibody activity improves mitochondrial reactive oxygen species and hypertension in a rat model of preeclampsia. *American Journal of Physiology-Regulatory, Integrative and Comparative Physiology*. 2020 Feb 1;318(2):R256-62.
8. Howard CB, Mcdowell R, Feleke K, **Deer E**, Stamps S, Thames E, Singh V, Pervin S. Chemotherapeutic vulnerability of triple-negative breast cancer cell-derived tumors to pretreatment with *Vernonia amygdalina* aqueous extracts. *Anticancer research*. 2016 Aug 1;36(8):3933-43.

ORAL PRESENTATIONS AT REGIONAL AND NATIONAL MEETINGS

Cd4+t Cells Cause Hypertension, Increased Glucose, And Mitochondrial Dysfunction In A Novel Rodent Model Of Gestational Diabetes Mellitus. *Hypertension*. 09/2021

Low Dose of IL-2 Normalizes Hypertension and Mitochondrial Function in Response to Placental Ischemia. *Society for Reproductive Investigation*. 06/2021

AT1-AAs cause Vascular Endothelial Mitochondrial Oxidative Stress associated with Preeclampsia. *Experimental Biology Conference*. 04/2021

An Immunological Perspective on Preeclampsia. *Conference for Black Physiologists*. 04/2021

Progesterone induced blocking factor attenuates hypertension, placental and endothelial cell mitochondrial dysfunction and reactive oxygen species in response to sFlt-1 during pregnancy. *Society for Reproductive Investigation in Vancouver, Canada*. 03/2020.

Mechanisms of altered androgen processing following surgical weight loss. *Cardiovascular-Renal Research Center, University of Mississippi Medical Center in Jackson, MS*. 09/2018

Inhibition of Leptin Secretion in Adipocytes by *Vernonia amygdalina* Extract. *CSET/LSMAP Research Symposium in Jackson, MS*. 02/2015

ABSTRACTS

1. **Deer EM**, Williams JM, Amaral LM, Fitzgerald S, Herrock O, Turner T, Campbell N, and LaMarca B. CD4+T Cells cause mitochondrial dysfunction, an increase in glucose, and hypertension in a novel Rat Model of Gestational Diabetes Mellitus. *APS New Trends in Sex and Gender Medicine conference*. 10/2021
2. Amaral LM, **Deer E**, Comley K, Cornelius DC, Jones J, Ibrahim T, Vaka R, Franks M, LaMarca B. Progesterone induced blocking factor attenuates hypertension, placental and endothelial cell mitochondrial dysfunction and

reactive oxygen species in response to sFlt-1 during pregnancy. Society for Reproductive Investigation. 06/2021

3. Fitzgerald S, Hogg J, **Deer E**, Lemon JP, Amaral L, Cornelius C, Herrock O, Ibrahim T, and LaMarca B. IL-17 causes hypertension and multi-organ tissue dysfunction which is attenuated with blockade of agonistic autoantibodies to the angiotensin II type I (AT1-AA) receptor during pregnancy. *Experimental Biology*, 4/2021.
4. Hogg JP, Fitzgerald S, **Deer E**, Amaral LM, Cornelius D, Lemon J, Herrock O, Ibrahim T, LaMarca B. 72 IL-17 stimulates B cells to secrete AT1-AA in hypertension and multi-organ tissue dysfunction during pregnancy. *American Journal of Obstetrics & Gynecology*. 2/2021
5. **Deer E**, Comley K, Cornelius DC, Jones J, Ibrahim T, Vaka R, Franks M, Amaral L. Progesterone induced blocking factor attenuates hypertension, placental and endothelial cell mitochondrial dysfunction and reactive oxygen species in response to sFlt-1 during pregnancy. *Hypertension*. 09/2020
6. **Deer E**, Reeve K, Amaral LM, Vaka VR, Franks M, Fitzgerald S, Herrock O, Ibrahim T, Lamarca BB. RUPP rat model CD4+ T Cells activate NK cells and cause mitochondrial oxidative stress and hypertension in normal pregnant rats. *Hypertension*. 09/2020
7. Fitzgerald S, Herrock O, **Deer EM**, Ibrahim T, Lamarca BB, Cornelius DC, Amaral L. Mitochondrial Dysfunction And Natural Killer Cell Activation Stimulated By IL-17 Signaling From Th17 Cells In Response To Placental Ischemia During Pregnancy. *Hypertension*. 9/2020
8. Campbell N, **Deer EM**, Amaral LM, Reeve K, Fitzgerald S, Herrock O, Franks M, Ibrahim T, Lamarca BB. Inhibition Of T Cell Activation In Response To Placental Ischemia During Pregnancy Improves Hypertension And Activation Of Natural Killer Cells. *Hypertension*. 9/2020
9. **Deer E**, Reeve KE, Amaral LM, Vaka VR, Franks M, Fitzgerald S, Herrock O, Ibrahim T, LaMarca B. CD4+ T Cells from RUPP rat model activate NK cells and cause mitochondrial oxidative stress and hypertension in normal pregnant rats. *Experimental Biology*. 4/2020
10. **Deer E**, Jones J, Comely K, Cornelius DC, Ibrahim T, Vaka VR, Franks M, LaMarca B, Amaral LM. Progesterone induced blocking factor improves blood pressure, mitochondrial dysfunction and reactive oxygen species in response to sFlt-1 induced hypertension during pregnancy. *Experimental Biology*. 4/2020
11. Fitzgerald SJ, **Deer E**, Herrock OT, Ibrahim T, Amaral L, Lamarca B. IL-17 Signaling Stimulates Natural Killer Cell Activation and Causes Mitochondrial Dysfunction in Response to TH17 Cells Stimulated in Response to Placental Ischemia During Pregnancy. *Experimental Biology*. 4/2020
12. Amaral LM, **Deer E**, Comley K, Cornelius DC, Jones J, Ibrahim T, Vaka R, Franks M, LaMarca B. Progesterone Induced Blocking Factor Attenuates Hypertension, Placental and Endothelial Cell Mitochondrial Dysfunction and Reactive Oxygen Species in Response to sFlt-1 During Pregnancy. *Society for Reproductive Investigation*. 3/2020
13. Reeve KE, **Deer E**, Amaral LM, Vaka VR, Franks M, Fitzgerald S, Herrock O, Ibrahim T, LaMarca B. NK cell-mediated mitochondrial oxidative stress and hypertension in response to CD4+ T cells from RUPP rats. *American Journal of Obstetrics & Gynecology*. 1/2020

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14. **Deer E**, Amaral LM, Reeve K, Fitzgerald S, Herrock O, Franks M, Ibrahim T, Lamarca BB. (2019, October) RUPP CD4+T Cells activate NK cells, cause mitochondrial oxidative stress, and hypertension in normal pregnant rats. University of Mississippi Medical Center's Research Day in Jackson, MS. 10/2019
15. **Deer E**, Welch BA, and Grayson BE. (2019, April) Leptin Signaling Defects in Offspring of Dams Having Received Vertical Sleeve Gastrectomy. Experimental Biology Conference in Orlando, FL. 04/2019
16. **Deer E**, Welch BA, and Grayson BE. (2018, October) Dysregulated Leptin Signaling in Post-Bariatric Rodent Offspring. University of Mississippi Medical Center's Research Day in Jackson, MS. 10/2018
17. **Deer E**, Howard C, and Tchounwou, P. (2017, September) Inhibition of Leptin Secretion by Vernonia amygdalina Extract. 14th International Symposium on Recent Advancements in Environmental Health Research and Metal Ions in Biology and Medicine in Jackson, MS. 09/2017
18. **Deer E**, Howard C, and Tchounwou, P. (2016, September) Inhibition of Leptin Secretion in Adipocytes by Vernonia amygdalina Extract. 13th International Symposium on Recent Advancements in Environmental Health Research and Metal Ions in Biology and Medicine in Jackson, MS. 09/2016
19. **Deer E**, Howard C, and Tchounwou, P. (2015, September) Inhibition of Adipocyte Proliferation by Vernonia amygdalina Extract. 12th International Symposium on Recent Advancements in Environmental Health Research and Metal Ions in Biology and Medicine in Jackson, MS. 09/2015
20. **Deer E**, Howard C, and Tchounwou, P. (2015, March) Inhibition of Adipocyte Proliferation by Vernonia amygdalina Extract. Beta Kappa Chi Scientific Honor Society and National Institute of Science 72nd Joint Annual Meeting in Jackson, MS. 03/2015
21. **Deer E**, Howard C, and Tchounwou, P. (2014, September) Inhibition of Adipocyte Proliferation by Vernonia amygdalina Extract. 11th International Symposium on Recent Advancements in Environmental Health Research and Metal Ions in Biology and Medicine in Jackson, MS. 09/2014