

Eric Matthew George

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Personal Statement:

My major areas of research interest are in gestational disorders, in particular preeclampsia and gestational hypertension. As the etiology and pathophysiology of preeclampsia are still poorly understood, my lab is primarily focused on understanding the downstream effects of placental insufficiency and ischemia-believed to be the central mechanism driving the symptomatic phase of the disorder.

Recently, the primary focus of the lab has been in determining the relevance of ischemia-driven production of extracellular remodeling factors. Notably this includes overproduction of the enzymes heparanase and matrix metalloproteinases. Currently, we are examining the biological effects of the cleavage products of these enzymes, and determining their role in inflammatory factor production. We have further identified a number of novel anti-angiogenic peptides produced by ischemic placental tissue which have not been previously described and we are actively investigating the biological mechanisms underlying them and their relevance in both our pre-clinical rodent model and the utility of these peptides as a biomarker in our UMC patient population.

While much remains obscure in regards to the pathophysiology of preeclampsia, a number of dysregulated proteins have been identified which are believed to be responsible for many of the maternal symptoms, in particular the anti-angiogenic protein sFlt-1. Therefore, a second major aim of the lab has been to develop peptide-based therapeutics targeting sFlt-1 and other identified factors utilizing a novel synthetic peptide delivery system which prevents fetal exposure of attached agents. We are also currently planning to expand the range of delivered agents to other disease states, such as improving fetal safety of chemotherapeutic agents during pregnancy.

Education:

- 2009-2011 University of Mississippi Medical Center
Postdoctoral Fellowship (Dr. Joey Granger, advisor)
- 2010 University of Mississippi Medical Center
Ph.D. in Biochemistry (Dr. David Brown, advisor)
Thesis: *In Vivo* Structural Modeling of Mouse H1c Containing Chromatosomes, and Identification of Prothymosin α as Linker Histone Chaperone.
- 2009 University of Mississippi Medical Center
Master of Biological Sciences
- 2002 University of Mississippi
B.A. in Biochemistry/History

Professional Experience:

- 2013-present Assistant Professor, Department of Biochemistry, University of Mississippi Medical Center, Jackson, MS

2013-present Graduate Faculty, School of Graduate Studies in the Health Sciences
2013-present Assistant Professor, Department of Physiology and Biophysics, University of Mississippi Medical Center, Jackson, MS
2009-present Member, UMMC Women's Health Research Center, Jackson, MS
2009-present Member, UMMC Cardiovascular and Renal Research Center, Jackson, MS
2011-2013 Instructor, Department of Physiology and Biophysics, University of Mississippi Medical Center, Jackson, MS
2009-2011 Postdoctoral Fellow, Department of Physiology and Biophysics, University of Mississippi Medical Center, Jackson, MS
2002-2010 Graduate Student, Department of Biochemistry, University of Mississippi Medical Center, Jackson, MS

Awards:

2016 APS Early Career Advocacy Fellowship
2015 APS WEH New Investigator Award
2015 University of Mississippi Medical Center Excellence in Research Award-Silver Medal
2014 University of Mississippi Medical Center Excellence in Research Award – Bronze Medal
2011 American Heart Association HBPR Trainee Advocacy New Investigator Travel Award
2010 American Heart Association Hypertension Summer School Travel Award

Professional Memberships:

American Heart Association
American Physiological Society

SERVICE:

University Service:

- 2015 – Present Department of Physiology and Biophysics Seminar Director
2013 – 2016 Member, University of Mississippi Medical Center School of Graduate Studies in the Health Sciences Alumni Board of Directors
2015 – 2016 Member, University of Mississippi Medical Center Postdoctoral Advisory Committee
2014 – 2015 Cardiovascular and Renal Research Center Seminar Director

Professional Consultation:

- 2014 – Present Reviewer for the Intramural Research Support Program (IRSP), University of Mississippi Medical Center
2011 – Present Reviewer for AHA Summer Undergraduate Research Fellowship Grants
2015 – Present External Reviewer for French National Research Agency
2015-- Present External Reviewer for Medical Research Council, United Kingdom

Journal/Editorial:

Editorial Board:

- 2016 – Present Editorial Board Member, *Physiological Genomics*
2015 – Present Editorial Board Member, *Obstetric and Pediatric Pharmacology*
2015 – Present Editorial Board Member, *Hypertension*

Ad Hoc Review

Hypertension
International Journal of Biological Sciences
American Journal of Hypertension
Clinical Sciences
Physiological Genomics
European Journal of Obstetrics & Gynecology and Reproductive Biology
International Journal of Hypertension
Biochemistry and Cell Biology
Placenta
Gynecology and Obstetrics: Current Research
Current Molecular Medicine
BioMed Research International
Clinical and Experimental Hypertension
Journal of Cardiovascular Pharmacology
Reproductive Sciences
PLOS ONE
Experimental Physiology
Journal of Molecular Histology
Clinical Biochemistry
Frontiers in Pharmacology
Redox Report
Reproduction, Fertility and Development

Professional Scientific Society Service:

- 2010 – Present Member of the Research Trainee Advisory Subcommittee for the AHA's Council on High Blood Pressure
- 2015 – Present Faculty Advisor, Trainee Advocacy Committee, APS Sex and Gender Research Interest Group

Community Outreach

- 2014 – Present Physiology Understanding (PhUn) Week at the Mississippi Children's Museum Event
- 2012 – 2013 Physiology Understanding (PhUn) Week Outreach at Northwest Rankin Elementary

TEACHING/MENTORING

Undergraduate Teaching

2004 Lecturer, Health Professions Alliance Partnership Summer Enrichment Program
1999 – 2002 Teaching Assistant, Undergraduate Laboratory, Department of Biology, University of Mississippi

Graduate Teaching:

2016 Guest Lecturer, Medical Physiology (PHYSIO611)
2014 – Present Small Group Leader, Medical Physiology (PHYSIO611)
2015 – Present Lecturer, Physiological Applications of Molecular Biology (PHYSIO727)
2015 – 2016 Lecturer, Responsible Conduct of Research (ID709), UMMC
2013 – Present Lecturer, Biochemical Methods (BCH740)
2014 – Present Lecturer, Principles of Physiology (PHYSIO625/725), UMMC
2005 – 2006 Lecturer, Biomedical Ethics, UM School of Pharmacy

Trainees:

Graduate Students

2016-Present Adrian Eddy (PhD Program, Physiology)

Undergraduate Students:

2015-2016 Logan Wilson (SURE program, University of Mississippi)
2014 – 2015 Kevin Garman (SURE program, University of Kansas)

Medical Students:

2015-2016 William Stewart (MSRP program, UMMC)

Rotation Students:

2015 Adrian Eddy (PhD Program, Physiology)
2015 Elena Dent (PhD program, Physiology)
2015 Jamarius Waller (MD, PhD program)
2015 Ezekiel Gonzalez-Fernandez (MD, PhD program)
2014 Abdulhadi Al Almodi (PhD program, Physiology)
2014 Victoria Wolf (PhD program, Physiology)
2014 Gwendolyn Davis (PhD program, Physiology)

Thesis Committee:

2015 -- Present Jeremy McGowan (PhD Program, Neuroscience)
2016 -- Present Marija Kuna (PhD Program, Biochemistry)

RESEARCH:

Oral Presentations and Invited Participation in Scientific Meetings.

1. Extracellular Matrix Remodeling in the Etiology of Preeclampsia. Experimental Biology 2016. April 3, 2016.
2. Preeclampsia and Cardiovascular Disease. International Society for Hypertension 2014, Athens, Greece. June 15, 2014.
3. Transcriptomics of placental ischemia/new peptide therapies for preeclampsia. Tox Talx 2013, Mill Valley, CA. June 23, 2013.
4. Hypoxia-induced Heparanase Regulates sFlt-1 Release from Placental Chorionic Villi. American Heart Association's Council on High Blood Pressure Research 2012 Scientific Sessions. Washington, D.C. Sep 21, 2012.
5. "Is HO-1 a potential therapeutic of pre-eclampsia." 7th International Congress on Heme Oxygenases and Related Enzymes. Edinburgh, Scotland. May 30, 2012.
6. "Heme Oxygenase-1 as a Potential Therapeutic Target for the Treatment of Preeclampsia." APS Physiology of Cardiovascular Disease: Gender Disparities. Jackson, MS. Oct 14, 2011.
7. "Heme Oxygenase-1 Negatively Regulates sFlt-1 Production in Placental Villi by its Metabolic Byproducts Carbon Monoxide and Bilirubin." American Heart Association's Council on High Blood Pressure Research 2011 Scientific Sessions. Orlando, FL. Sept. 22, 2011.
8. "Heme oxygenase-1 induction attenuates sFlt-1 induced hypertension in pregnant rats." Experimental Biology 2011. Washington, D.C. April 10, 2011.

Invited Seminars / Lectures:

1. The Placental Glycocalyx in Pregnancy and Preeclampsia. UMMC Dept of Physiology Seminar Series. May 25, 2016.
2. Placental ECM Fragmentation in Preeclampsia. UMMC CRRC Work in Progress seminar. May 14, 2015.
3. New molecular mechanisms in the pathogenesis of preeclampsia. UMMC Dept of Pharmacology Seminar. Nov 24, 2015.
4. Novel anti-angiogenic therapies for ocular disorders. UMMC CRRC Work in Progress seminar. Sept 18, 2015.
5. New Molecular Mechanisms in the Pathogenesis of Preeclampsia. UMMC Department of Pharmacology Seminar Series. Nov 24, 2014.
6. New Pathogenic Mechanisms in Preeclampsia. UMMC Department of Biochemistry Seminar Series, Oct 28, 2013.
7. Identifying Novel Pathogenic Factors in Preeclampsia by Transcriptomics. UMMC Department of Physiology Seminar Series. Aug 29, 2012.
8. HO-1: A potential therapy for pregnancy induced hypertension. UMMC Department of Physiology Seminar Series. Aug 17, 2011.
9. Heme oxygenase-1 induction attenuates sFlt-1 induced hypertension in pregnant rats. Experimental Biology 2011. April 10, 2011.
10. "New Insights into the Function of Linker Histones." Engineer Research and Development Center, US Army Corps of Engineers, Vicksburg, MS. Feb. 2, 2011.
11. Heme Oxygenase-1 in placental ischemia. UMMC Department of Physiology Seminar Series. Aug 15, 2010.

Research Support:

Current Support:

Grant Number: R00HL116774

Dates: 3/01/14-3/01/17

Source: National Heart Lung and Blood Institute, NIH

Title: Hypertensive Mechanisms in Preeclampsia.

Goals: is focused on the molecular mechanisms which regulate release of sFlt-1 in response to placental ischemia during preeclampsia; specifically the role of heparanase in regulating sFlt-1 release from the placenta to the maternal circulation.

Role: PI

Grant Number: R01HL121527

Dates: 1/15/2014 – 12/31/2018

Source: National Heart Lung and Blood Institute, NIH

Title: A Novel Protein Delivery System for Therapy of Preeclampsia.

Goals: The goal of the project is to develop a delivery system for protein and peptide therapeutics that treat preeclampsia while preventing fetal exposure.

Role: Co-investigator

Grant Number: GRNT31460000

Dates: 7/1/16-6/30/18

Source: American Heart Association

Title: A novel proangiogenic therapy for preeclampsia

Goals: Development of a novel peptide based therapeutic for the management of preeclampsia.

Role: PI

Pending Support:

Grant Number: R01HD88548 (Scored, Resubmitted April 2016)

Dates: 7/1/2016 – 6/30/21

Source: NIH/NICHD

Title: A novel therapy for preeclampsia

Role: PI

Grant Number: R41EY026371 (A0 scored 44 priority score; resubmission pending)

Dates: 12/1/2015 – 11/30/2016

Source: NIH/NEI

Title: Development of an sFlt miniprotein for treatment of corneal neovascularization

Role: PI

Grant Number: GRANT12158942

Dates: 1/1/17-12/31/19

Source: DOD

Title: Maternally Sequestered Chemotherapy for Treatment of Breast Cancer During Pregnancy

Role: MPI

Completed Support:

Grant Number: 11POST7840039

Dates: 7/1/2011-6/30/13

Source: American Heart Association Post-Doctoral Award

Title: Hypertension and Pregnancy

Goals: seeks to examine the utility of heme oxygenase-1 induction as a possible therapeutic in the management of hypertension associated with preeclampsia.

Role: PI

Grant Number: P20GM104375

Dates: 3/1/14-2/28/16

Source: National Institute of General Medical Sciences

Title: A novel proangiogenic therapy for preeclampsia

Goals: Development of a novel peptide based therapeutic for the management of preeclampsia.

Role: PI (seed grant)

Other Grant Submissions: (Since start of tenure track)

Agency	Mechanism	Date Submitted	Title	Role	Priority Score
NIH/NEI	R21	2-2012	Development of an sFlt1 miniprotein for treatment of corneal neovascularization (MPI with Bidwell)	MPI	50
	R21 A1	7-2014			ND
Preeclampsia Foundation	Vision	5-2013	A Novel Protein Delivery System for Therapy of Preeclampsia	PI	
NIH	R41	2-2014	A protein delivery system for maternally sequestered chemotherapy	Sub	42
NIH	R41	11-2014	A protein delivery system for maternally sequestered chemotherapy	Subl	ND

PI Principle Investigator

MPI Multiple Principle Investigator

Co-I Co-Investigator

Sub University Subcontractor for Small Business Grants

Peer-Reviewed Publications:

1. **George EM**, Cockrell K, Arany A, Stec DE, Rimoldi JM, Gadepalli RSV, and Granger JP. Carbon monoxide releasing molecules blunt placental ischemia-induced hypertension. *Am J Hyper*. May 2, 2017, e-published ahead of print
2. Logue OC, George EM, Bidwell GL 3rd. Preeclampsia and the brain: neural control of cardiovascular changes during pregnancy and neurological outcomes of preeclampsia. *Clin Sci (Lond)*. 2016 Aug 1;130(16):1417-34. PMC4958371.
3. Logue OC, McGowan JW, **George EM**, Bidwell GL 3rd. Therapeutic angiogenesis by vascular endothelial growth factor supplementation for treatment of renal disease. *Curr Opin Nephrol Hypertens*. 2016 Sep;25(5):404-9. PMC4974125.
4. Flanagan, TW, Files TK, Casano KR, **George EM**, and Brown DT. Photobleaching studies reveal that a single amino acid polymorphism is responsible for the differential binding affinities of linker histone subtypes H1.1 and H1.5. *Biol Open*. Feb 24;5(3):372-80. PMC4810752.
5. **George EM**, Mahdi F, Logue OC, Robinson GG, and Bidwell GL. Corneal Penetrating Elastin-like Polypeptide Carriers. *Journal of Ocular Pharmacology and Therapeutics*. *J Ocul Pharmacol Ther*. 2016 Apr; 32(3):163-71. PMC in process.
6. **George EM**, Stout JM, Stec DE, and Granger JP. Heme oxygenase induction attenuates TNF- α induced hypertension in pregnant rodents. *Front. Pharmacol*. 2015 Aug 17;6:165. PMC4538306.
7. **George EM**, Liu H, Robinson GG, Perkins Eddie, and Bidwell GL III. Growth factor purification and delivery systems (PADS) for therapeutic angiogenesis. *Vasc Cell*. 2015 Jan 24;7(1):1. PMC4316602.
8. Chinthalapudi K, Rangarajan ES, Patil DN, **George EM**, Brown DT, and Izard T. Lipid binding promotes oligomerization and focal adhesion activity of vinculin. *J Cell Biol*. 2014 Dec 8;207(5):643-56. PMC4259812.
9. **George, EM**. New Approaches for Managing Preeclampsia: Clues from Clinical and Basic Research. *Clin Ther*. 2014 Dec 1;36(12):1873-81. PMC4268345.
10. Bidwell GL III and **George EM**. Maternally sequestered therapeutic polypeptides-a new approach for the management of preeclampsia. *Frontiers in Pharmacology*. 2014 Sep 5;5:201. PMID25249978.
11. **George EM**, Liu H, Robinson GG, and Bidwell GL III. A polypeptide drug carrier for maternal delivery and prevention of fetal exposure. *Journal of Drug Targeting*. 2014 Dec;22(10):935-47. PMID25148609.
12. Rana S, Rajakumar A, Geahchan C, Salahuddin S, Cerdeira AS, Burke SD, **George EM**, Granger JP, Karumanchi SA. Oubain inhibits placental sFlt-1 production by repressing HSP27-dependent HIF-1 α pathway. *FASEB J*. 2014 Jun 26. PMID 24970393.

13. **George EM**, Warrington JP, Spradley FT, Palei AC, Granger JP. The heme oxygenases: Important regulators of pregnancy and preeclampsia. *Am J Physiol Regul Integr Comp Physiol*. 2014 Jun 4. PMID 24898840.
14. **George EM**, Garrett MR, and Granger JP. Placental ischemia induces changes in gene expression in chorionic tissue. *Mammalian Genome*. 2014 Jun;25(5-6):253-61. PMID24668059.
15. Warrington JP, Coleman K, Skaggs C, Hosick PA, **George EM**, Stec DE, Ryan MJ, Granger JP, Drummond HA. Heme oxygenase-1 promotes migration and β -epithelial Na⁺ channel expression in cytotrophoblasts and ischemic placentas. *Am J Physiol Regul Integr Comp Physiol*. 2014 May; 306(9):R641-6. PMID 24553299.
16. Warrington JP, Palei AC, Spradley FT, **George EM**, and Granger JP. Recent advances in the understanding of the pathophysiology of preeclampsia. *Hypertension*. 2013 Oct;62(4):666-73. PMID 23897068.
17. **George EM**, Palei AC, Dent EA, and Granger JP. Sildenafil attenuates placental ischemia induced hypertension. *Am J Physiol Regul Comp Physiol*. 2013 Aug 15;305(4): R397-403. PMID: 23785075.
18. Palei AC, Spradley FT, Warrington JP, **George EM**, and Granger JP. Pathophysiology of hypertension in pre-eclampsia: a lesson in integrative physiology. *Acta Physiol (Oxf)*. 2013 Apr 16. PMID: 23590594.
19. **George EM**, Stec DE, and Granger JP. Heme oxygenase inhibition increases blood pressure in pregnant rats. Apr 3, 2013. *Am J Hypertens*. PMID23553216.
20. ***George EM** and Bidwell GL. STOX1: A New Player in Preeclampsia? *Hypertension*. Jan 28, 2013. PMID23357180.
21. **George EM** and Granger JP. Heme Oxygenase in Pregnancy and Preeclampsia. *Curr Opin Nephrol Hypertens*. Jan 16, 2013. PMID23328500.
22. Hall JE, Granger JP, do Carmo JM, da Silva AA, Dubinion J, **George EM**, Hamza S, Speed J, Hall ME. Hypertension: Physiology and Pathophysiology. *Comprehensive Physiology*. Oct 2012. 1;2(4):2393-442. PMID23720252.
23. **George EM**, Granger JP. Linking Placental Ischemia and Hypertension in Preeclampsia: Role of Endothelin 1. *Hypertension*. 2012 May 7. PMID22566502.
24. **George EM** and Arany I. Induction of heme oxygenase-1 shifts the balance from pro-injury to pro-survival in the placentas of pregnant rats with reduced uterine perfusion pressure. *Am J Physiol Regul Integr Comp Physiol*. 2012 Mar 1;302(5):R620-6. PMID22237591.
25. **George EM**, Palei AC, and Granger JP. Endothelin as a final common pathway in the pathophysiology of preeclampsia: therapeutic implications. *Curr Opin Nephrol Hypertens*. 2012 Mar;21(2):157-62. PMID22257796.

26. **George EM**, Colson D, Dixon J, Palei AC, and Granger JP. Heme Oxygenase-1 Attenuates Hypoxia-Induced sFlt-1 and Oxidative Stress in Placental Villi through Its Metabolic Products CO and Bilirubin. *Int J Hypertens*. 2012;2012:486053. PMID22195275.
27. Ryan MS, Gilbert EL, Glover PH, **George EM**, Masterson CW, McLemore GR Jr, LaMarca B, Granger JP, Drummond HA. Placental ischemia impairs middle cerebral artery myogenic response in the pregnant rat. *Hypertension*. 2011 Dec;58(6):1126-31. PMID22068864.
28. Speed JS, **George EM**, Arany M, Cockrell K, Granger JP. Role of 20-hydroxyeicosatetraenoic Acid in mediating hypertension in response to chronic renal medullary endothelin type B receptor blockade. *PLoS One*. 2011;6(10):e26063. Epub 2011 Oct 7. PMID22016812.
29. Hall M.E., **George E.M.**, and Granger J.P. The Heart During Pregnancy. *Rev Esp Cardiol*. 2011 Nov;64(11):1045-1050. Epub 2011 Oct 1. PMID21962953.
30. **George E.M.**, Arany M., Cockrell K., Storm M.V., Stec D.E., and Granger J.P. Induction of heme oxygenase-1 attenuates sFlt-1-induced hypertension in pregnant rats. *Am J Physiol Regul Integr Comp Physiol*. 2011 Nov;301(5):R1495-500. Epub 2011 Aug 24. PMID21865547.
31. **George E.M.** and Granger J.P. Endothelin: Key mediator of hypertension in preeclampsia. *Am J Hypertens*. 2011 Sep;24(9):964-9. Epub 2011 June 6. PMID21677700.
32. **George E.M.** and Granger J.P. VEGF: a possible therapeutic for the treatment of preeclampsia? *Expert Rev Obstet Gynecol*. May 2011, Vol. 6, No. 3, Pages 255-257.
33. Speed J.S., Lamarca B., Berry H., Cockrell K., **George EM**, Granger J.P. Renal Medullary Endothelin-1 is Decreased in Dahl Salt Sensitive Rats. *Am J Physiol Regul Integr Comp Physiol*. 2011 Aug;301(2):R519-23. Epub 2011 May 25. PMID21613578.
34. **George EM** and Granger J.P. Mechanisms and Potential Therapies for Preeclampsia. *Current Hypertension Reports*. *Curr Hypertens Rep*. 2011 Aug;13(4):269-75. PMID21465139.
35. Tam Tam KB, **George E**, Cockrell K, Arany M, Speed J, Martin JN Jr, Lamarca B, Granger JP. Endothelin type A receptor antagonist attenuates placental ischemia-induced hypertension and uterine vascular resistance. *Am J Obstet Gynecol*. 2011 Apr;204(4):330.e1-4. PMID21458623.
36. **George EM**, Cockrell K., Arany M., Csongradi E., Stec D.E., and Granger J.P. Induction of Heme Oxygenase-1 Ameliorates Placental Ischemia-Induced Hypertension. *Hypertension*. 2011 May;57(5):941-8. Epub 2011 Mar 7. PMID21383306.
37. **George E.M.** and Granger, J.P. Recent Insights into the Pathophysiology of Preeclampsia. *Expert Rev Obstet Gynecol*. 2010 Sep 1;5(5):557-566. PMID21170149.
38. **George E.M.**, Cockrell K., Adair T.H., and Granger J.P. 2010. Regulation of sFlt-1 and VEGF Secretion by Adenosine Receptor Signaling Under Hypoxic Conditions in Rat Placental Villous Explants. *Am J Physiol Regul Integr Comp Physiol*. 2010 Oct 20. PMID20962204.
39. **George E.M.** and Brown, D.T. Prothymosin α is a Component of a Linker Histone Chaperone.

2010. FEBS Letters. 2010 Jul 2;584(13):2833-6, PMID2891112.

40. **George E.M.**, Izard, T., Anderson, S.D., and Brown, D.T. 2010. The Nucleosome Interaction Surface of Linker Histone H1c is Distinct from that of H1⁰. Journal of Biological Chemistry. 2010 Jul 2;285(27):20891-6, PMID2898364.
41. Hearst S.M., Gilder A.S., Negi S.S., Davis M.D., **George E.M.**, Whittom A.A., Toyota C.G., Husedzinovic A., Gruss O.J., and Hebert, M.D. 2009. Cajal-body formation correlates with differential coilin phosphorylation in primary and transformed cell lines. The Journal of Cell Science. 2009 Jun 1;122(Pt 11):1872-81, PMID2684838.
42. Meshorer, E., Yellajoshula, D., **George E**, Scambler, P.J., Brown, D.T., and Misteli, T. 2006. Hyperdynamic Plasticity of Chromatin Proteins in Pluripotent Embryonic Stem Cells. 2006. Developmental Cell. 10(1): 105-116.

Articles:

1. George, EM. The disease of theories: unravelling the mechanisms of preeclampsia. The Biochemist. 39:1: 22-25.

Abstracts:

1. Bidwell GL, Chapman C, Mahdi F, Logue O, and George EM. A Novel Maternally Restricted Pro-angiogenic Therapy for Preeclampsia. SE Regional IDeA Meeting 2015. Biloxi, MS.
2. George EM and Granger JP. Daily Inhaled Low-Dose Carbon Monoxide Does Not Improve Hypertension Associated with Placental Ischemia. Experimental Biology 2015. Boston, MA. May 2015.
3. George EM, Stec DE, and Granger JP. Protective effects of bilirubin administration on placental ischemia-induced hypertension. AHA Council on High Blood Pressure Research 2013 Scientific Sessions. September 2014.
4. George EM and Granger JP. Potential therapeutic value of the heme oxygenase system in preeclampsia. The XIX World Congress for the Study of Hypertension in Pregnancy. Oct 28, 2014. New Orleans, LA.
5. George EM, Stec DE, and Granger JP. CO-Releasing Molecules Attenuate Placental Ischemia-Induced Hypertension in Pregnant Rats. Experimental Biology 2014. April 28, 2014. San Diego, CA.
6. George EM, Liu H, and Bidwell III GL. Development of a Stabilized Bioactive VEGF Chimera for the Management of Preeclampsia. AHA Council on High Blood Pressure Research 2013 Scientific Sessions. New Orleans, LA Sep 12, 2013.

7. Bidwell III GL, Liu H, and George EM. A Delivery System for Protein and Peptide-based Therapeutics to Treat Preeclampsia. AHA Council on High Blood Pressure Research 2013 Scientific Sessions. New Orleans, LA Sep 12, 2013.
8. George EM, Arany M, Cockrell, K, Stec DE, and Granger JP. Heme oxygenase-1 induction attenuates TNF- α induced hypertension in pregnant rats. The Gulf Coast Physiological Society Meeting. Mobile, AL. May 31, 2013.
9. George EM, Arany M, Cockrell, K, Stec DE, and Granger JP. Heme oxygenase-1 induction attenuates TNF- α induced hypertension in pregnant rats. Experimental Biology 2013. Boston MA. April 22, 2013.
10. George EM, Cockrell K, Arany M, and Granger JP. Transcriptomic Analysis of Placental Chorionic Villi During Chronic Placental Ischemia. American Heart Association's Council on High Blood Pressure Research 2012 Scientific Sessions. Washington, D.C. Sep 19, 2012.
11. George EM, Cockrell K, Arany M, Stec DE, and Granger JP. Inhibition of heme oxygenase-1 (HO-1) induces mild hypertension in pregnant rats. American Heart Association's Council on High Blood Pressure Research 2012 Scientific Sessions. Washington, D.C. Sep 19, 2012.
12. George EM, Palei AC, Cockrell K, Arany M, and Granger JP. Sildenafil Administration Attenuates Placental Ischemia and sFlt-1 Induced Hypertension in Pregnant Rats. April 23, 2012. Experimental Biology 2012. San Diego, CA.
13. George, EM, Cockrell K, Arany M, Stec D, and Granger JP. Heme oxygenase-1 induction attenuates sFlt-1 induced hypertension in pregnant rats. April 9, 2011. Experimental Biology. Washington, D.C.
14. George EM, Cockrell K, Arany M, Csongradi E, Stec D, and Granger JP. Induction of Heme Oxygenase-1 Attenuates Placental Ischemia-induced Hypertension. Nov 9-11, 2010. Global Obesity Summit. Jackson, MS.
15. George, EM, Cockrell K, Arany M, Csongradi E, Stec D, and Granger JP. Induction of Heme Oxygenase-1 Attenuates Placental Ischemia-induced Hypertension. October 13-16, 2010. Council for High Blood Pressure Research 2010 Scientific Sessions. Washington, D.C.

Book Chapters:

1. **George EM** and Granger JP (2015). Animal Models for Investigating Pathophysiological Mechanisms of Preeclampsia. In Lindheimer MD, Roberts JM, and Cunningham FG (Eds.), *Chesley's Hypertensive Disorders of Pregnancy, 4th Edition*. Elsevier.
2. **George EM** and Granger, JP (2012). Vascular Mechanisms of Hypertension in the Pathophysiology of Preeclampsia. In Hill, J.A., Griendling, K., and Olson, E.N. (Eds.), *Muscle: Fundamental Biology and Mechanisms and Disease*. Elsevier.

3. Granger JP and **George EM.** (2012). Role of the Kidneys in Hypertension. In Schrier RW, Coffman TM, Falk RJ, Molitoris BA, and Neilson EG. (Eds.), *Schrier's Diseases of the Kidney*, 9th ed. Lippincott Williams & Wilkins.

Patents:

1. Bidwell, G.L. III, and **George, E.M.** "Ocular Compositions and Methods Thereof." PCT Full Utility patent filed April 29, 2015.
2. Bidwell, G.L. III, and **George, E.M.** "Composition And Method For Therapeutic Agent Delivery During Pregnancy." PCT Full Utility patent filed October 1, 2014.