

Stella Goulopoulou, PhD
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Physiology & Anatomy
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Area of Expertise

Research in my lab focuses on vascular physiology and pharmacology. Our long-term goal is to determine what molecular mechanisms facilitate maternal vascular adaptations in pregnancy and how these adaptations determine long-term maternal vascular health. Currently, we are studying the interaction between extracellular mitochondrial DNA and Toll-like receptor 9 to delineate the role of circulating mitochondrial DNA in the development of maternal vascular dysfunction in preeclampsia.

In a different project, we are studying the cross-talk between maternal adipose tissue and maternal arteries. We are interested in understanding how this cross-talk regulates maternal blood flow. We are also interested in understanding how maternal obesity impairs the relationship between maternal adipose tissue and arteries, leading to maternal vascular dysfunction and impaired blood flow to the uteroplacental unit.

Concepts/techniques: Vascular physiology (ex vivo assessment of vascular reactivity and myogenic tone, vascular cell cultures, blood pressure measurements in conscious rodents); Placental biology (placental tissue explants, trophoblast cell lines); Physiology of pregnancy (rodent models, pharmacological interventions); Other (immunohistochemistry, measurements of oxidative stress, ELISA techniques, Western blot, qPCR, laser capture microdissection).

Qualifications

PhD in Exercise Physiology & Science, Syracuse University

MS in Exercise Science, Syracuse University

BS in Physical Education & Sports Science, Kapodistrian University of Athens

Recent Publications

A free-choice high-fat, high-sucrose diet induces hyperphagia, obesity, and cardiovascular dysfunction in female cycling and pregnant rats

Ahmed, H., Hannan, J. L., Apolzan, J. W., Osikoya, O., Cushen, S. C., Romero, S. A. & Goulopoulou, S., 1 May 2019, In : American journal of physiology. Regulatory, integrative and comparative physiology. 316, 5, p. R472-R485

Paying the toll for inflammation: Immunoreceptor-mediated vascular dysfunction in hypertension

McCarthy, C. G., Goulopoulou, S. & Webb, R. C., 1 Mar 2019, In : Hypertension. 73, 3, p. 514-521 8 p.

Prenatal therapeutics and programming of cardiovascular function

Brennan, L. J., Goulopoulou, S. & Bourque, S. L., 1 Jan 2019, In : Pharmacological Research. 139, p. 261-272 12 p.

Uterine perivascular adipose tissue is a novel mediator of uterine artery blood flow and reactivity in rat pregnancy

Osikoya, O., Ahmed, H., Panahi, S., Bourque, S. L. & Goulopoulou, S., 1 Jan 2019, In : Journal of Physiology.

Mechanisms of Sex Disparities in Cardiovascular Function and Remodeling

Chaudhari, S., Cushen, S. C., Osikoya, O., Jaini, P. A., Posey, R., Mathis, K. & Goulopoulou, S., 13 Dec 2018, In : Comprehensive Physiology. 9, 1, p. 375-411 37 p.

Special issue: "Perinatal therapeutics: Novel approaches to target adverse pregnancy outcomes and shape offspring health"

Bourque, S. L. & Goulopoulou, S., 1 Nov 2018, In : Pharmacological Research. 137, p. 250-251 2 p.

Calpain a novel mediator of MPO (myeloperoxidase)-induced endothelial dysfunction

Goulopoulou, S., 1 Jan 2018, In : Hypertension. 71, 4, p. 574-576 3 p.

New Models of Pregnancy-Associated Hypertension

Cushen, S. C. & Goulopoulou, S., 1 Nov 2017, In : American journal of hypertension. 30, 11, p. 1053-1062 10 p.

Vascular endothelium: A potential source of podocalyxin in serum from pregnancies with preeclampsia

Goulopoulou, S., 1 Nov 2017, In : Journal of Hypertension. 35, 11, p. 2176-2177 2 p.

Effects of low-dose aspirin on maternal blood pressure and vascular function in an experimental model of gestational hypertension

Osikoya, O., Jaini, P. A., Nguyen, A., Valdes, M. & Goulopoulou, S., 1 Jun 2017, In : Pharmacological Research. 120, p. 267-278 12 p.

Sponsored Projects

Circulating Cell-Free Mitochondrial DNA in a Preclinical Model of Preeclampsia with Placental Ischemia

Goulopoulou, S. & Phillips, N.
American Heart Association
1/07/19 → 30/06/22

Nanosensing of Oxidized Cell-free mtDNA: Biomarkers of Inflammation and Mitochondrial Dysfunction

Phillips, N., Planz, J. & Goulopoulou, S.
Intramural Research(UNTHSC)
1/06/17 → 31/05/18

Placenta-Derived Mitochondrial DNA and Maternal Vascular Dysfunction During Pregnancy

Goulopoulou, S.
American Heart Association
1/08/14 → 30/06/17

Placental Oxygenation and Mitochondria-derived Damage-associated Molecular Patterns

Goulopoulou, S.
Intramural Research(UNTHSC)
1/07/16 → 31/08/17

The Effects of Parity of Vascular Function in Female Rats with Type 2 Diabetes (For: Rachel Posey)

Goulopoulou, S.
Intramural Research(UNTHSC)
1/03/16 → 28/02/17

Trophoblast cell responses to hypoxia (For: Ryan T Nguyen)

Goulopoulou, S.
Intramural Research(UNTHSC)
5/06/17 → 31/05/18

Trophoblast-induced Maternal Cardiovascular Dysfunction in Pregnancy (For:Spencer Cushen)

Goulopoulou, S.
American Heart Association
1/07/18 → 30/06/20

Uterine Perivascular Adipose Tissue: a Novel Target for Obesity-Induced Adverse Pregnancy Outcomes

Goulopoulou, S.
Intramural Research(UNTHSC)
1/05/16 → 31/08/17

Vascular Anti-oxidant Mechanisms in a Rat Model of Gestational Hypertension (For: Spencer Cushen)
Goulopoulou, S.
Intramural Research(UNTHSC)
1/06/16 → 31/05/17