2014 Vanderbilt Scholars in Diabetes

Keywords: diabetes scholars

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A central mission of the Vanderbilt Diabetes Center » and the Vanderbilt DRTC » is training the next generation of scientists and physicians who will improve the lives of patients with diabetes. Each year the Vanderbilt Diabetes Center presents the Vanderbilt Scholar in Diabetes Award to recognize a graduate student and a postdoctoral fellow based on his/her diabetes-related research at Vanderbilt.

From left to right: Alexandra Leamy, Dr. William Heerman, Scott Wright, Dr. Maria Golson

Oscar B. Crofford Scholar in Diabetes, Graduate Student

Alexandra K. Leamy

"Palmitate-induced alterations in phospholipid composition promote ER stress and cellular dysfunction in hepatic lipotoxicity"

Alexandra Leamy received her B.S. in Engineering Science from Trinity University and is currently a 5th year PhD student working in the laboratory of Dr. Jamey Young, Assistant Professor of Chemical and Biomolecular Engineering. Alexandra's research is aimed at understanding the molecular mechanisms by which saturated fatty acids exert their toxic effect on hepatocytes in the setting of lipid overnutrition. This research is particularly relevant in the context of hepatic manifestations of the metabolic syndrome, as elevated levels of circulating free fatty acids have been linked to progressive liver disease. Alexandra's work is the result of a highly collaborative effort utilizing the expertise of the Vanderbilt Medical Center community and the Vanderbilt DRTC, particularly with the help of Dr. Masakazu Shiota.

Alexandra's work on mechanisms of saturated fatty acid lipotoxicity has been accepted in prestigious publications such as Journal of Lipid Research and Progress in Lipid Research. She has received recognition for her work at the

Experimental Biology annual conference, as a National Science Foundation Honorable Mention and as a 2013 P.E.O. Scholar.

Vanderbilt Scholar in Diabetes, M.D.

William J. Heerman, M.D., M.P.H

"Shaping Infant Growth: Understanding the Interaction Between Maternal Obesity and Gestational Weight Gain"

Dr. Heerman is a physician-scientist focused on developing and implementing family-centered approaches to obesity treatment and prevention in underserved communities. He completed his medical school, residency, and master of public health training at Vanderbilt, where he joined the faculty in July 2014 as an Instructor of Pediatrics and Internal Medicine. By applying behavior change methodology to community-engaged research, Dr. Heerman is developing a culturally tailored pragmatic approach to support healthy weight in the context of the family. Dr. Heerman's current work focuses on improving maternal-child health outcomes by supporting healthy pregnancy weight gain in Latino populations. Under the mentorship of Dr. Shari Barkin, Dr. Heerman has implemented a complex quantitative approach to highlight the combined effect that maternal obesity prior to pregnancy and pregnancy weight gain have on shaping infant growth.

This work has important implications for the content and timing of future interventions to support healthy pregnancy weight gain and subsequent infant growth.

Daryl K. Granner Scholar in Diabetes, Postdoctoral Fellow Ph.D.

Maria L. Golson, Ph.D.

Maria Golson received her B.S. in Biology with a concentration in Genetics at Duke University. She completed her Ph.D. in Cell and Molecular Biology with a concentration in Genetics and Gene Regulation. Her thesis work in the laboratory of Dr. Klaus Kaeshner focused on the role of the Notch ligand Jagged1 in pancreas development and function. She demonstrated the requirement of Jagged1 for normal pancreatic endocrine and duct development, publishing in the *Mechanisms of Development and Gastroenterology*.

Maria continued her investigation of the pancreas in Dr. Maureen Gannon's lab starting in 2009. Her projects while a postdoctoral fellow at Vanderbilt have examined the requirement for FoxM1 in the beta-cell response to high-fat diet, a novel role for FoxM1 in protecting against beta cell death, and an automated method for measuring beta cell mass. In 2011, Maria received a JDRF Postdoctoral fellowship to explore whether expressing an activated form of FoxM1 could induce beta cell proliferation and rejuvenate aging beta cells.

Maria has also served as the trainee representative to the monthly Diabetes Working Group for the past four years. In this role, she has organized volunteer efforts for fundraising walks fort he JDRF and the annual employee glucose screenings.