



VANDERBILT CUTTING-EDGE DISCOVERY

MEENA S. MADHUR, M.D., Ph.D.

A NOVEL LINK BETWEEN INFLAMMATION,
HYPERTENSION, & AORTIC DISSECTION

SCOTT A. SMITH, M.D., Ph.D.

THERAPEUTIC REPURPOSING OF HUMAN IGE
MONOCLONAL ANTIBODIES (MABS)

AUGUST 30, 2018

4:00 P.M.

208 LIGHT HALL



VANDERBILT CUTTING-EDGE DISCOVERY LECTURE

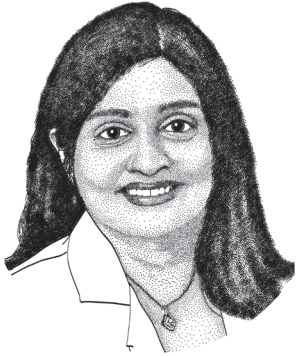
CARRIE K. JONES, Ph.D.,
Assistant Professor of Pharmacology

STEPHEN W. PATRICK, M.D., M.P.H., M.S.,
Assistant Professor of Pediatrics and Health Policy

September 13, 2018
208 Light Hall / 4:00 P.M.

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OFFICES OF THE EXECUTIVE VICE PRESIDENT FOR RESEARCH
AND THE DEAN OF BASIC SCIENCES

VANDERBILT  UNIVERSITY
MEDICAL CENTER



**MEENA S. MADHUR,
M.D., Ph.D.**

ASSISTANT PROFESSOR OF MEDICINE,
AND OF MOLECULAR PHYSIOLOGY & BIOPHYSICS

Meena Madhur, M.D., Ph.D., is currently an Assistant Professor of Medicine and Molecular Physiology and Biophysics at Vanderbilt University. She graduated summa cum laude from Duke University with a B.S. in Biomedical Engineering and Biology before receiving her M.D. and Ph.D. degrees through the Medical Scientist Training Program at the University of Virginia. She returned to Duke University for her internship and residency in Internal Medicine and obtained her cardiology fellowship training at Emory University. She joined the faculty at Vanderbilt in July 2012. The overarching goal of Dr. Madhur's research program is to understand how and why immune cells are activated in hypertension and vascular disease and how best to target the immune system to limit end-organ damage without causing global immunosuppression.

Dr. Madhur has received grant funding from the National Institutes of Health (K08 Award and DP2 New Innovator Award), Gilead Sciences, and the American Heart Association. She is the author of several peer-reviewed scientific manuscripts and reviews, and serves on the editorial boards of Hypertension, Cardiovascular Research, and the Journal of the American College of Cardiology: Basic to Translational Science. She is an active member of the American Heart Association, American College of Cardiology, American Society of Nephrology, and American Physiological Society.



**SCOTT A. SMITH,
M.D., Ph.D.**

ASSISTANT PROFESSOR OF MEDICINE,
DIVISION OF INFECTIOUS DISEASES

Scott Smith, M.D., Ph.D., is a physician-scientist who is also trained as an adult infectious diseases clinical specialist. He has over 15 years experience in the area of viral pathogenesis and immunity. His initial training gave him a broad understanding of poxvirus immunovirology, and of the biology of xenotransplantation, which principally involves the innate immune system. His more recent work is focused on generation and study of naturally occurring human monoclonal antibodies. Dr. Smith developed a highly efficient method to produce human hybridomas from peripheral blood B cells. This technology was developed for the specific purpose of studying the human antibody response to viral infections, and to use the information obtained regarding their epitope targets to assist in the rational design of vaccines. While performing these studies, Dr. Smith recognized that this technology could be taken across scientific fields to allow for the very first time the study of naturally occurring human allergen- and helminth-specific IgE antibody responses – the adaptive targeting molecule that orchestrates a very different branch of the human immune system. He acknowledges the many parallels that can be drawn between the infectious diseases antibody fields and this new area for which he has focused his effort. Natural human monoclonal IgG, IgM, and IgA have been studied for many decades. All of the knowledge and techniques used can now be applied to studies of the pathological and potentially protective human antibody response to innocuous allergens and helminth infections to aid in the development of helminth vaccines and new allergy therapeutics.