MECHANISMS OF VASODILATATION
12TH INTERNATIONAL SYMPOSIUM

CELEBRATING THE 30TH ANNIVERSARY OF THE DISCOVERY OF NITRIC OXIDE AS AN INTERCELLULAR MESSENGER

***Symposium*: Celebrating the discovery of NO as an endothelium-derived relaxing factor (EDRF): innovation and challenges in translating discovery from bench to bedside.**

***Organizer*: Michele Feletou**
Servier
Paris, France

***Speakers*:**

Prof. Dr. Andreas Friebe *- Regulation of smooth muscle tone by NO-sensitive guanylyl cyclase*
Dr. Andreas Friebe is professor of Physiology at the University of Würzburg. He obtained his Master of Science Degree from the University of Amherst (Amherst, MA) and received his PhD from the Freie Universität Berlin (Berlin, Germany). After post-doctoral training, he became assistant professor of Pharmacology at the University of Bochum (Bochum, Germany). Dr. Friebe's work focuses on NO/cGMP signaling. He generated mice deficient in the NO receptor, NO-sensitive guanylyl cyclase. Using a global and various cell-specific knockout strains, his work includes regulation of smooth muscle in the cardiovascular and gastrointestinal systems. In addition, Dr. Friebe is interested in the role of cGMP in angiogenesis and cAMP crosstalk on the level of phosphodiesterases. In a recent project, he started to investigate the role of NO/cGMP signaling in the lung regarding pulmonary hypertension and fibrosis.

James Leiper PhD *- Endogenously produced inhibitors of nitric oxide synthesis: How important are they?*
Work in Dr. Leiper's laboratory focuses on understanding the mechanisms that regulate nitric oxide (NO) signaling in health and disease. NO is a signaling molecule with protean functions in the cardiovascular, immune and central nervous systems. In the cardiovascular system dys-regulated nitric oxide synthesis results in loss of cardiovascular homeostasis and contributes to a range of diseases including hypertension, atherosclerosis the cardiovascular collapse seen in septic shock. Therapeutic approaches to directly target NO have had limited success. Therefore, his group focused on endogenous regulatory pathways that might facilitate therapeutically appropriate regulation of NO production, in particular, how endogenously produced inhibitors of NO synthesis might be harnessed therapeutically. Their group identified enzymes responsible for metabolism of endogenous NOS inhibitors, demonstrated the physiological and pathophysiological impact of endogenous NOS inhibitors, and invented selective inhibitors of the metabolism of endogenous inhibitors that might have therapeutic utility. Future plans include the use of genetic and experimental medicine approaches in human cohorts to further understand the therapeutic potential of manipulating concentrations of endogenous NOS inhibitors.

David A. Kass, M.D. *- How Neighborhoods Watch over Cyclic GMP Signaling* Abraham and Virginia Weiss Professor of Cardiology
*D*avid A. Kass, MD is the Abraham and Virginia Weiss Professor of Cardiology, Professor of Medicine, Biomedical Engineering, and Cellular and Molecular Medicine at Johns Hopkins University, and he is Director of the Institute of CardioScience. Dr. Kass earned a Bachelor of Arts Degree in Applied Physics and Engineering from Harvard College and M.D. from Yale University. He has received numerous awards including American Heart Association's Basic Science Achievement Award and Melvin Marcus Award, Johns Hopkins Professor's Award for Distinction in Teaching and David Levine Mentorship Award. He has published over 370 papers garnering nearly 44,000citations. His lab is funded by the National Institutes of Health, American Heart Association, Fondation Leducq, among other sources. As Director of the 41-year running NIH-T32 post-doctoral Training Program in Cardiovascular Disease, he has mentored over 80 fellows and students. His translational research focuses on elucidating novel mechanisms of heart muscle disease and developing new therapies to treat it. He pioneered clinical development of ventricular cardiac resynchronization, and his landmark work on phosphodiesterase type 5 and type 9 inhibitors has revealed their role as therapeutic targets for treating heart disease. He also developed numerous analytical methods to assess cardiac and large artery function, and co-founded Robin Medical Inc, which manufactures MRI-based position/motion sensing technology, and Cardioxyl Inc., a drug company that recently completed Phase II clinical trials of nitroxyl donors to treat heart failure, and sold to Bristol Meyers Squibb in 2015.

***John C. Burnett, Jr., MD-ANP* -** *A Novel Particulate Guanylyl Cyclase Stimulator: From Discovery to Clinical Trials*
Dr. Burnett is the Marriott Family Professor of Cardiovascular Research, Director of the Cardiorenal Research Laboratory and Mayo Distinguished Investigator. His research has advanced our understanding of humoral mechanisms in heart failure and hypertension with a special focus on the natriuretic peptide/guanylyl cyclase/cGMP pathway. This research has led to the development of innovative therapeutics and novel diagnostics, which are currently in clinical practice and clinical trials. Dr. Burnett has been continuously funded by the NIH since 1986 and his 537 publications have been published in leading peer review journals such as *New England Journal of Medicine, Science, Circulation, Circulation Research, Journal of the American College of Cardiology, American Journal of Physiology, Proceedings of the National Academy of Science, Kidney International, Hypertension, Clinical Chemistry, Journal Molecular and Cellular Cardiology* and *European Heart Journal.* He is a member of the prestigious American Society for Clinical Investigation and Association of American Physicians. Dr. Burnett holds 15 patents and has contributed to the founding of 3 biotechnology companies.