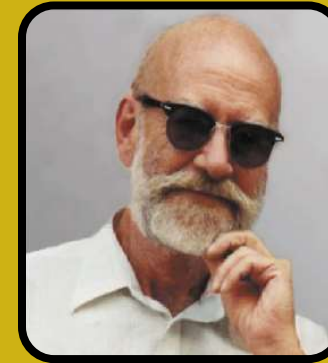
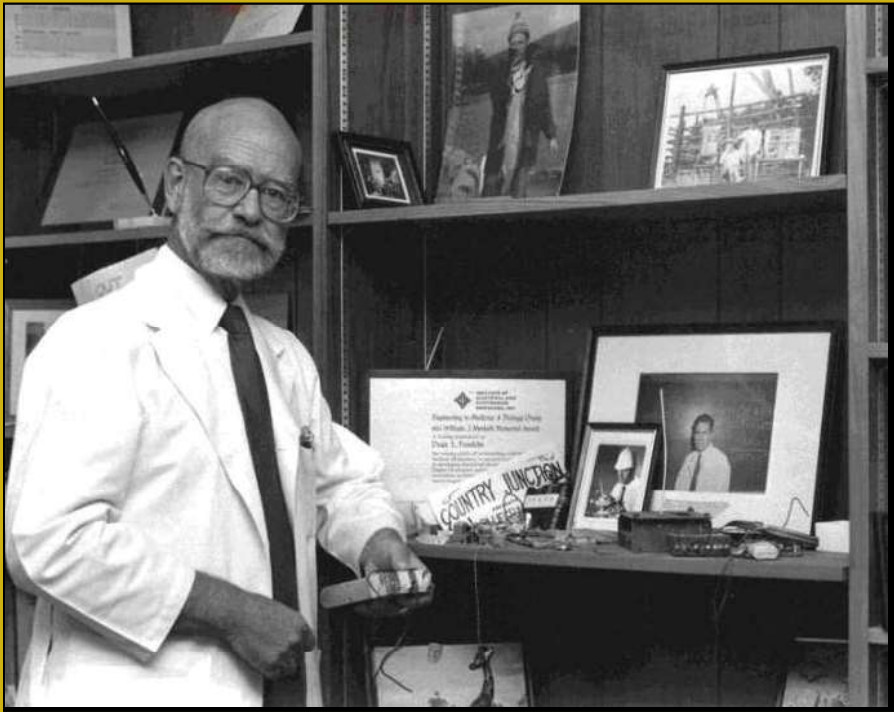


Franklin Endowed Lecture



Dean Franklin

Dalton Cardiovascular Research Center Director
1980-1990



Dean was an exceptionally innovative biophysicist who, in collaboration with his colleague and lifelong friend Dr. Robert Van Citters, pioneered the development of in vivo instrumentation and conscious animal models. This allowed the successful pursuit of a variety of unanswered physiologic questions in conscious instrumented animals including hemodynamics, cardiac function, exercise and coronary artery disease.

Among Dean's many breakthroughs and inventions were:

- Invention of the ultrasonic differential transit-time flowmeter
- Invention of the ultrasonic Doppler flowmeter
- First measurement of instantaneous cardiac dimensions by ultrasound (sonomicrometer)
- First telemetry of cardiovascular signals from unrestrained conscious animals
 - Aortic blood flow from a boxer dog at the San Diego Zoo
- First successful application of fully implantable pressure transducers in conscious animals
 - Baboons and giraffes in Kenya, Africa
- Characterization of the hemodynamic response to extreme exercise
 - Progression from dogs on the first prototype Quinton treadmill, to dogs running behind a VW bus, to the ultimate athletes—Alaskan Sled Dogs
- Development of an intermittent coronary occlusion model of coronary collateral circulation in response to ischemia in dogs

Technology invented by Dean during his early work has since been developed into the myriad of nonclinical and clinical applications of ultrasound and telemetry that are in widespread use today.

Suffice it to say, anyone who has ever benefited from biomedical instrumentation, diagnostic ultrasound and/or telemetry in human medicine or in animal research owes the existence of these technologies to Dean Franklin's genius.



Franklin Endowed Lecturer



Robert Mecham, PhD

Professor Emeritus, Cell Biology & Physiology
Washington University School of Medicine

NextGen Atkins Seminar Room
10:00 am

“How to build a blood vessel: mechanical and instructive signals from the vascular extracellular matrix.”

Previous Franklin Lectures



2008 Inaugural Franklin Lecture:

Stephen F. Vatner, MD, Director, Cardiovascular Research Center, Department of Cell Biology & Molecular Medicine, New Jersey Medical School, “Adrenergic regulation in heart failure-last half century” September 12, 2008



2009 Franklin Lecture: Brian Duling, PhD, Robert M. Berne Cardiovascular Research Center, University of Virginia, “Voltage Gated Channels in the Endothelium a New Paradigm or a Pharmacological Phantasy” November 11, 2009



2011 Franklin Lecturer: Shu Chien, MD, PhD, Professor of Bioengineering and Medicine, University of California, San Diego, “Effects of shear flow on interactions between endothelial cells and smooth muscle cells” April 19, 2011



2012 Franklin Lecturer: Mina J. Bissell, PhD, Distinguished Scientist, Life Sciences Division Lawrence Berkeley National Laboratory, “Why Don’t we get more cancer” November 8, 2012



2014 Franklin Lecturer: Carlos Bustamante, PhD, Professor of Molecular & Cell Biology, Physics and Chemistry, University of California, Berkeley “Division of Labor and Coordination Among the Sub units of a Viral Ring ATPase” May 28, 2014



2016 Franklin Lecturer: Kathleen G. Morgan, PhD Professor in the Department of Health Sciences and Director of Cytoskeleton & Signaling Lab; “Molecular Mechanisms of Aortic Stiffness and Consequent Cardiovascular Diseases with Aging” December 9, 2016



2017 Franklin Lecturer: David I. Attwell, PhD Jodrell Professor of Physiology, University College London Fellow of the Royal Society UK, Fellow of the Academy of Medical Sciences UK “Control of cerebral and cardiac blood flow at the capillary level by pericytes in health and disease” September 20, 2017



2018 Franklin Lecturer: William C. Sessa, PhD, Alfred Gilman Professor of Pharmacology and Professor of Medicine (Cardiology), Yale University, “Interfacing lipid metabolism with endothelial function” November 6, 2018