Janice Pfeffer, Ph.D.

1943-2001

The Janice M. Pfeffer Lectureship recognizes the scientific contributions of one of the pioneers in the field of cardiac remodeling. Born in Rockford, Illinois on October 31, 1943, Janice Marie Sikorski graduated with honors from Rockford College. There she studied with a lab partner named Marc Pfeffer, who shared her passion for integrative physiology. Janice and Marc became inseparable not only as husband and wife, but also as collaborators in integrative physiology. Janice Pfeffer was awarded her Ph.D. in Physiology and Biophysics from the University of Oklahoma, where she studied under Dr. Edward Frohlich. Her doctoral thesis, "Longitudinal Changes in Cardiac Function and Geometry During the Development of Left Ventricular Hypertrophy in the Spontaneously Hypertensive Rat," became a classic study on the role of cardiac hypertrophy and left ventricular remodeling. She continued her studies as a post-doctoral fellow in Dr. Eugene Braunwald's laboratory at the Peter Bent Brigham Hospital, Harvard Medical School. There she demonstrated that progressive ventricular enlargement, "ventricular remodeling", occurs following a myocardial infarction, and that this process continues long after the histologic resolution within the infarct zone. Her landmark study, "Influence of Chronic Captopril Therapy on the Infarcted Left Ventricle of the Rat", definitively demonstrated that ventricular enlargement was attenuated by angiotensin converting enzyme inhibitors, and that favorable alterations in ventricular remodeling in the animal model were associated with improved cardiac performance and prolonged survival. These pioneering animal studies introduced the concept of ventricular remodeling as a potential therapeutic target, and subsequently served as the basis for the landmark clinical trial, Survival and Ventricular Enlargement (SAVE), which showed that long-term treatment with an angiotensin converting enzyme inhibitor (captopril) prevented cardiac remodeling and resulted in improved clinical outcomes in humans. Based upon the results of this seminal translational study, angiotensin converting enzyme inhibitors have become one of the mainstays of therapy for the treatment of myocardial infarction.

In addition to being a meticulous and thoughtful scientist, Janice Pfeffer was a devoted mother and wife, who serves as a role model for countless women scientists. The intent of the Janice M. Pfeffer Lectureship is to acknowledge not only the latest insights and advances in the field of cardiac remodeling, but also to remember the remarkable personal and professional qualities that were emblematic of Dr. Janice M. Pfeffer.

About the Award...

Each year, the International Council selects a speaker to deliver the Pfeffer Distinguished Lecture at the World Congress or American Section meeting. The purpose of this lecture is to honor the memory of Dr. Pfeffer and to recognize her contributions to cardiovascular research. The topic of the lecture must be in the field of remodeling, heart failure and/or hypertrophy. The speaker receives a plaque and $1,000. honorarium in addition to travel expenses.

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The Janice Pfeffer Distinguished Lecture 2004

Honored Speaker

Dr. David Kass

"Cardiac Dyssynchrony and Resynchronization: From Bench to Bedside"

2004 Honored Speaker

David Kass, M.D. Brisbane, Australia

David Kass has been a Professor of Medicine and Professor of Biomedical Engineering at the Johns Hopkins University Medical Institutions since 1998. He graduated Harvard University in 1975 where he majored in Applied Physics and Engineering, and then received his medical degree from Yale University in 1980. Following post-graduate training in Internal Medicine at George Washington University, he joined the Cardiology Division at Johns Hopkins where he has remained since.

Dr. Kass's research career began during medical school, when he joined a laboratory at Harvard to study circadian control of renal/ cardiovascular reflex mechanisms, work for which he was awarded the Young Investigator Prize in Renal Physiology from the American Physiological Society. In 1983, he joined the laboratory of the late Kiichi Sagawa at Johns Hopkins, and began his career focusing on ventricular mechanics and heart failure pathophysiology. He received an NIH Clinician Scientist Award in 1986 and was recipient of the AHA Established Investigator Award shortly thereafter. His pioneering work melding pressure-volume relation analysis to clinical pathophysiology investigations led to his being awarded the first Melvin Marcus Award of the American Heart Association in 1990. He has been a member of the American Society of Clinical Investigation since 1994, an editorial board member for *Circulation* since 1996, and Associate Editor of *Circulation Research* since 1999. He is past president of the Cardiovascular Systems Dynamics Society, Fellow of the AHA and member of the AHA National Research Committee. He was awarded the Professor's Award for Distinction in Teaching for both Basic and Pre-clinical Sciences from Johns Hopkins University in 2001, and Johns Hopkins Mentorship Award in 2003. He directs the Training Grant in Cardiovascular Science in the Cardiology Division at Johns Hopkins.

Throughout his career, Dr. Kass has melded both clinical and basic science interests pursuing each with similar levels of commitment. He has published over 165 primary research papers in leading journals, and authored numerous book chapters, review articles, and invited editorial/reviews. His clinical research has focused on elucidating the pathophysiology of cardiac failure and hypertrophy, as well as testing novel treatments for these disorders. His recent landmark work on cardiac resynchronization therapy played a major role in the rapid development of this new clinical treatment. His basic research has spanned inquiries from the molecular/cellular level to intact organ-integrated systems. Current projects are investigating molecular signaling coupling load-induced hypertrophy to cyclic GMP metabolism/catabolism, endothelial mechanosignaling and the mechanisms coupling reduced compliance to increased vascular risk, molecular-cellular and organ pathophysiology of cardiac dyssynchrony and resynchronization, structure-function relations of sarcomeric protein mutations, and novel pharmacologic treatments of heart failure based on nitric oxygen-related species. His work has been extensively supported by the National Institutes of Health, the American Heart Association, including clinical and basic research grants. He also works closely with industry to develop novel clinical treatments and diagnostics for the treatment of heart failure and vascular aging. He is a co-founder in Robin Medical Inc., a start-up company developing novel MRI-based tracking systems for use in real-time position sensing and catheter-based therapies, and holds several patents for bioengineering-based diagnostics, and novel pharmaceuticals and/or applications. In his spare time - he loses miserably to his 8 year old son in video games, but seems to have greater success as a chamber music performer on the clarinet.

2003 Honored Speaker

Piero Anversa, M.D. Mystic, Connecticut

Dr. Anversa received his M.D. degree from the University of Parma (Italy) in 1965. He quickly rose to the rank of Professor of Pathology at the University of Parma and subsequently Professor of Pathology, Medicine, and Microbiology and Immunology at New York Medical College, where he is also Vice-Chairman of the Department of Medicine and Director of the Cardiovascular Research Institute.

During his productive career, Dr. Anversa has designed, conducted, and published a large number of seminal studies which have provided fundamental new insights into the pathophysiology of myocardial infarction, ventricular remodeling, heart failure, and cardiac repair. His demonstration that stretch-induced generation of angiotensin II contributes to fibrosis after infarction has paved the way for the use of ACE inhibitors in patients with heart failure. Likewise, his demonstration that cardiac myocytes can divide *in vivo* has impelled a radical reassessment of the widely-accepted belief that these cells are terminally differentiated. Even more provocative and far-reaching are the implications of Dr. Anversa's recent studies documenting the ability of hematopoietic and cardiac stem cells to differentiate into cardiac myocytes and other cardiac cell types.

Dr. Anversa has published over 200 original articles, many of which have appeared in the most stringent journals (47 in *Circulation Research*, 8 in *JCI*, 5 in the *New England Journal of Medicine*, 2 in *Nature*, and 5 in *PNAS*). He has also published 61 book chapters/review articles, is a regular speaker at national and international meetings, and serves as a frequent reviewer for NIH grant and program project applications.