

Janice M. 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 M. Pfeffer was awarded her Ph.D. in Physiology and Biophysics from the University of Oklahoma, where she studied under Dr. Edward D. 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 M. 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 at the annual section meeting of one of the three largest ISHR Sections. 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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ISHR

International Society for Heart Research

The Janice Pfeffer Distinguished Lecture 2009



Honored Speaker

Donald M. Bers, Ph.D.

"Ca and CaMKII signaling in normal and failing hearts"

Donald M. Bers, Ph.D.

2009 Honored Speaker

Nice, France



Dr. Bers is the Joseph Silva Chair for Cardiovascular Research, Distinguished Professor and Chair of the Department of Pharmacology at the University of California, Davis School of Medicine. He received his doctorate in Physiology from UCLA in 1978. He did

a postdoc at the University of Edinburgh, then returned to UCLA and UC Riverside where he rose to Professor. He was Chair of Physiology at Loyola University Chicago from 1992-2008 before moving to UC Davis. He sits on the editorial boards of: *Circulation Research*, *Journal of Molecular and Cellular Cardiology* (as Assoc Ed) and *Cell Calcium*. He has served in leadership roles in the AHA, Biophysical Society, American Physiology Society, Heart Failure Society of America and International Society for Heart Research (now President of NA Section), as well as on grant review panels at NIH and AHA. He is a Fellow of the AHA, ISHR and Biophysical Society. He is the Principal Investigator of an NIH Program Project Grant and MERIT award, author of more than 250 research articles, and a definitive and renowned single-author book [Excitation-Contraction Coupling And Cardiac Contractile Force](#). Dr. Bers has also mentored dozens of Ph.D. students and postdoctoral fellows.

Dr. Bers' research focus is on Ca^{2+} regulation in cardiac myocytes as a nodal control point in cardiac electrical activity, excitation-contraction coupling, energetics and, recently, excitation-transcription coupling. Work in his lab has focused on the fundamental aspects of numerous ion channels and transporters involved in cardiac function, and on how these interact dynamically in the myocyte environment to regulate cardiac electrophysiology and contractility, by combining quantitative biophysical, molecular and cellular approaches. His comprehensive and rigorous work has formed the foundation of our modern understanding of the detailed contribution and regulation in intact cardiac myocytes of Ca current, Na/Ca exchange, SR Ca uptake and release, mitochondrial Ca uptake and Na/K-ATPase. His integrative perspective on quantitative aspects of how cardiac myocytes work is widely appreciated.

His group also studies what goes wrong with these systems in the setting of heart failure, and how that contributes to contractile dysfunction and arrhythmogenesis in heart failure, work that helps to identify potential targets for therapeutic intervention. His group also develops computer models to synthesize the combined function of many cellular channels, transporters and their regulation. These serve as educational tools, help predict the behavior of this complex system and aid in sharpening new experimental hypotheses to enrich our understanding of cardiac function. Dr. Bers has also actively collaborated in research with many other groups, and has contributed to the synergistic progress of cardiac research.

Previous Award Winners...

Howard Rockman, M.D.

Cincinnati, OH: 2008

"G protein-coupled receptor signaling and heart disease"

Joanne S. Ingwall, Ph.D.

Bologna, Italy: 2007

"Energetics of the Failing Heart: new tools yield new insights"

Evangelia Kranias, Ph.D.

Toronto, Canada: 2006

"The Orchestra of SR Calcium Players: Who is the Conductor?"

Edward D. Frohlich, M.D.

New Orleans, LA: 2005

"Left Ventricular Hypertrophy: An Adaptive Cardiac Response with Multifactorial Risks"

David Kass, M.D.

Brisbane, Australia: 2004

"Cardiac Dysynchrony and Resynchronization: From Bench to Bedside"

Piero Anversa, M.D.

Mystic, Connecticut: 2003

"Myocardial Regeneration in Heart Failure"

This award is funded by generous contributions from Bristol Myers Squibb, Hoffman-LaRoche, AstraZeneca, Scios and the Michael and Keri Whalen Foundation.