

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

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The Janice Pfeffer Distinguished Lecture 2010



Janice M. Pfeffer, Ph.D.
1943-2001

Honored Speaker:

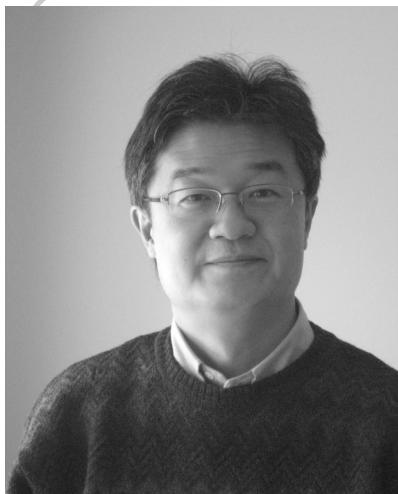
**Junichi Sadoshima,
M.D., Ph.D.**

"Regulation of Myocardial Growth and Death by Oxidative Stress"

Junichi Sadoshima, M.D., Ph.D.

2010 Honored Speaker

Kyoto, Japan



Junichi Sadoshima, M.D., Ph.D. holds the position of Professor and Vice Chair in the Department of Cell Biology and Molecular Medicine at the University of Medicine and Dentistry of New Jersey, New Jersey Medical School. He also serves as the Associate Director

of the Cardiovascular Research Institute, within the Department of Cell Biology and Molecular Medicine. Dr. Sadoshima received his M.D. and Ph.D. from Kyushu University in Fukuoka, Japan, and completed his postdoctoral training at Harvard Medical School. Dr. Sadoshima was awarded the American Heart Association's Louis N. and Arnold M. Katz Basic Science Research Prize (1995) and Cardiovascular Research Prize (2001). He is a Fellow of the American Heart Association and the International Society of Heart Research, and is a member of the American Society for Clinical Investigation. Dr. Sadoshima sits on the editorial board of 10 journals, including *Circulation Research*, *Journal of Molecular and Cellular Cardiology*, *Autophagy*, and *Journal of Clinical Investigation*. Dr. Sadoshima serves on grant review panels for the NIH and the AHA. Dr. Sadoshima's research has been supported by the NIH, the AHA and the Leducq Foundation. Dr. Sadoshima has mentored 6 PhD students and 24 postdoctoral fellows, two of whom were also awarded AHA prizes: the Melvin L.

Marcus Young Investigator Award in Basic Cardiovascular Sciences (2003) and the Louis N. and Arnold M. Katz Basic Science Research Prize (2008).

Dr. Sadoshima is a recognized world leader in the field of cardiac growth and survival signaling. His landmark study, reported in *Cell* over 16 years ago, first established the importance of myocyte-generated angiotensin and auto-activation of AT1 receptor-signaling and hypertrophy in response to mechanical stretch. Over the past two decades, his laboratory has continued to conduct seminal research on the regulators of cell death, survival and growth, which have included major studies of the roles of glycogen synthase kinase 3, the mammalian Hippo pathway thioredoxin and sirtuins.

One thrust of his recent research has been the role of reactive oxygen species and oxidative stress on both survival and hypertrophic stimulation. His laboratory was the first to establish a central role of the key reductive protein, thioredoxin-1, in growth and death of cardiomyocytes, and again led the field by showing the mechanisms of its control.

Most recently, Dr. Sadoshima demonstrated a novel mechanism whereby thioredoxin-1 regulates the oxidation of transcription factors (class II histone deacetylases), providing the first direct link between oxidative stress and a mechanism for cardiac hypertrophy. His extremely creative work has identified many new and important pathways that have become subsequent targets of research worldwide.

Previous Award Winners...

Donald M. Bers, Ph.D.

Nice, France: 2009

Howard Rockman, M.D.

Cincinnati, OH: 2008

Joanne S. Ingwall, Ph.D.

Bologna, Italy: 2007

Evangelia Kranias, Ph.D.

Toronto, Canada: 2006

Edward D. Frohlich, M.D.

New Orleans, LA: 2005

David Kass, M.D.

Brisbane, Australia: 2004

Piero Anversa, M.D.

Mystic, Connecticut: 2003

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