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.
Jen Davis is an associate professor in the Departments of Lab Medicine and Pathology as well as Bioengineering at the University of Washington, where she directs the Center for Cardiovascular Biology and serves as an associate director for the Institute of Stem Cell and Regenerative Medicine.

Her research program seeks to identify the basic physiologic tenets of fibroblast biology, their mechanistic underpinnings, and how these homeostatic behaviors turn maladaptive and drive fibrosis and inflammation, tissue stiffening, and structural remodeling. Using the heart as a model system with targeted mouse genetics and cardiac tissue engineering approaches, her lab has identified new transcriptional and morphologic fibroblast states, their chemical and mechanical regulators, and has begun to uncover the fibroblasts role in maintaining mechanical homeostasis in the context of inherited cardiomyopathies derived from defects in the force generating properties of cardiac muscle cells. Her lab actively investigates the mechanical homeostatic control systems underling adaptive and compensatory cardiac muscle and matrix remodeling using genetically engineered mice with targeted tuning of the myocyte’s tensile properties, an approach that led to the pioneering discovery that a mathematical descriptor of a myocyte’s mechanical status predicts the nature and severity of disease remodeling in the heart. This research has been continually supported by the National Institute of Health and American Heart Association. It has also led to more than 50 publications in top tier journals including Cell, Cell Stem Cell, and Circulation.

Jen received her doctorate in molecular and integrative physiology from the University of Michigan and performed her post-doctoral training at Cincinnati Children’s Hospital Medical Center. In 2014 she was awarded the Louis N. & Arnold M. Katz Basic Cardiovascular Science Research Award from the American Heart Association and was later elected a fellow of the International Society for Heart Research (ISHR). Since 2018 Jen has served as a council member and now as the treasurer for the ISHR-North American Section. Just last year she served as Co-chair of one of the theme organization groups for the ISHR World Congress in Berlin. In addition to her ISHR service, she is an associate editor for JMCC and an editorial board member of Circulation Research and the Journal of Physiology.

At the University of Washington Jen has developed new core curriculum for the molecular mechanisms of disease graduate program, serves the Medical Scientist Training Program admission committee, and is a core faculty member on the Bioengineering Cardiovascular Training Grant. Jen also serves as a Co-Director of the computational modeling Core associated with the Center for Translational Muscle Research, which is funded by the National Institute of Health.

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