

KEITH REIMER, M.D.

1946-2002

Keith Arnold Reimer, M.D., Ph.D., Professor of Pathology at Duke University Medical School, internationally recognized cardiovascular scientist, pathologist, and teacher, died on March 15, 2002 of metastatic renal cell carcinoma at the age of 56. Keith began his career in experimental pathology studying ischemic injury of the kidney, however he quickly shifted his focus to myocardial ischemic injury, the field in which he went on to make his major scientific contributions. After completing the MD/PhD program at Northwestern University in Chicago, Keith joined the faculty at Duke University in 1975 as Assistant Professor of Pathology. Early in his career, working in collaboration with Dr. Robert B. Jennings, he published landmark studies describing and characterizing the "wavefront phenomenon" of myocardial ischemic cell death. These studies, published in two papers (*Circulation* 56: 786-794, 1977; and *Laboratory Investigation* 40: 633-644, 1979), have been cited more than 1000 times. During the early 1980s, Keith developed methods to measure baseline predictors of infarct size, such as area at risk and collateral flow, that have become the standard for generating reliable and reproducible data to test cardioprotective interventions. The effort to discover cardioprotective interventions led to one of Keith's most notable achievements – the description of one of the strongest and most reproducible interventions for reducing infarct size: ischemic preconditioning. Numerous investigators and laboratories have worked to better understand this remarkably effective intervention, and the ever-expanding number of studies on ischemic preconditioning, in a wide variety of tissues, have consistently confirmed the original observation that brief periods of ischemia and reperfusion are not detrimental, but are actually markedly protective. The original article describing the phenomenon of ischemic preconditioning, "Preconditioning with ischemia: a delay of lethal cell injury in ischemic myocardium" (*Circulation* 74: 1124-1136, 1986) has been cited more than 1700 times.

Keith was an active member of the ISHR since 1976, and was elected a Councilor of the American Section in 1979, serving until 1985. He was a finalist for the Richard Bing Young Investigator Award of the ISHR in 1980. Keith served as Secretary of the American Section from 1985-1994, and as a member of the Council of the International Society from 1989-1995. In 1997, he became President-Elect of the American Section and was the sitting President of the American Section, as well as a member of the International ISHR Council, when he died.

About the Award...

Each year, the International Council selects a speaker to deliver the Keith Reimer 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. Reimer and to recognize his contributions to cardiovascular research. The topic of the lecture must be in the field of ischemia, coronary hemodynamics, cardiac metabolism, or contractile mechanisms. The speaker receives a plaque and \$1,000 honorarium in addition to travel expenses.

*This award is funded by a generous contribution from
Chugai-Pharmaceutical Co.*



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ISHR

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THE KEITH REIMER DISTINGUISHED LECTURE 2008



Honored Speaker

Dr. David Eisner

“Calcium Release in the Heart:
in and out of control”

DAVID EISNER



David Eisner has been at The University of Manchester since 1999 and has held the British Heart Foundation Chair of Cardiac Physiology since 2000. His undergraduate degree was obtained at the University of Cambridge and he did graduate work at Oxford with Denis Noble, graduating in 1979. He was on the Faculty at University College London (1980-90) and the University of Liverpool (1990-1999) before moving to Manchester.

Dr Eisner has been awarded a Wellcome Trust Senior Lectureship, The Pfizer Award in Biology and The Wellcome Trust Physiology Prize. He has served as Chairman of the Editorial Board of *The Journal of Physiology* and is a member of the Editorial Boards of *The Bio-*

2008 HONORED SPEAKER

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physical Journal and *Circulation Research*. Since January 2008 he has been Editor in Chief of *The Journal of Molecular and Cellular Cardiology*. He is a member of the International Council of the ISHR, having previously been on the Council of the European Section. In 2006 he co-organized the Annual meeting of the European Section in Manchester. He is a Fellow of the ISHR and of the Academy of Medical Sciences.

Dr Eisner's research has focused on the basic mechanisms regulating intracellular sodium and calcium concentrations. He demonstrated the steep dependence of contraction on intracellular sodium concentration and thence the role of sodium calcium exchange (NCX) in mediating interactions between Na and Ca regulation. After developing a method to measure the Ca content of the sarcoplasmic reticulum (SR), he characterized the mechanisms responsible for the normal, stable control of SR Ca content. His work demonstrated that SR Ca content is controlled by the systolic Ca transient modulating fluxes of calcium across the sarcolemma. This mechanism explains many, previously perplexing, aspects of calcium regulation including the fact that changes in the properties of the SR Ca release

channel (Ryanodine Receptor) have no effect in the steady state on the amplitude of the calcium transient due to changes of SR Ca content. Perturbations in this regulation may be responsible for disorders such as *pulsus alternans*. His recent research has focused on the mechanisms responsible for the generation of the diastolic Ca waves that are known to be responsible for some cardiac arrhythmias and how therapeutic strategies might be developed to abolish these arrhythmias.

Previous Award Winners...

Eduardo Marbán
(Bologna, Italy: 2007)

Garrett Gross, PhD
(Toronto, Canada: 2006)

Masao Endoh, MD, PhD
(Osaka, Japan: 2005)

R. John Solaro, PhD
(Brisbane, Australia: 2004)

Gerd Heusch, MD, PhD
(Strasbourg, France: 2003)

Roberto Bolli, MD
(Madison, Wisconsin: 2002)