

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 3700 times (the most cited paper in *Circulation*).

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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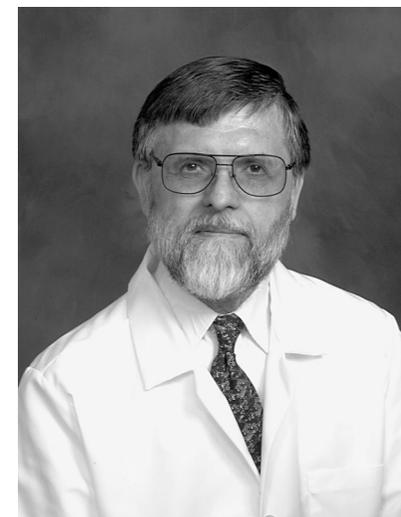
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ISHR

International Society for Heart Research

THE KEITH REIMER DISTINGUISHED LECTURE 2011



Keith Reimer, M.D. 1946-2002



Honored Speaker

Dr. Charles Murry

“Regenerating the Heart:
A Case for Rational Optimism”

CHARLES MURRY

2011 HONORED SPEAKER PHILADELPHIA, PA



Dr. Charles Murry is a professor of Pathology, Bioengineering and Medicine/Cardiology at the University of Washington in Seattle, where he also serves as the Director of the Center for Cardiovascular Biology and Co-Director of the Institute for Stem Cell and Regenerative Medicine. He

received his BS in Chemistry from the University of North Dakota in 1982, after which he enrolled in the MD-PhD program at Duke University. His PhD research was done in the laboratories of Keith Reimer and Robert Jennings, studying mechanisms of cell injury during myocardial ischemia-reperfusion. This work included the first description of the phenomenon of ischemic preconditioning. In 1989 he graduated from Duke and entered residency training in Pathology at the University of Washington, followed by postdoctoral training in vascular biology with Stephen Schwartz. He was appointed as an assistant professor of Pathology in 1996 and as professor in 2004. Murry's awards include the Burroughs Wellcome Career Award in Biomedical Sciences, the AHA's Council on Basic Cardiovascular Sciences Research Prize, the Presidential Early Career Award in Biomedical Sciences, and the University of Washington's Basic Science Teacher of the Year award.

Dr. Murry currently serves on the editorial boards of

Circulation, *Circulation Research*, and the *Journal of Molecular and Cellular Cardiology*. He has served as a member of numerous study sections at NIH and as chair of the AHA's Pathophysiology study section. He has served as a Councilor and Scientific Program Director for the Society for Cardiovascular Pathology, and he is currently a Councilor for the ISHR and chairs its Stem Cell and Gene Therapy Interest Group. Murry has served as an organizer for multiple international conferences including the Heart Failure Society of America scientific sessions, the CRT Angiomyogenesis and Cell Therapy Conference, the NHLBI Symposium on Cardiovascular Regenerative Medicine, the Keystone Symposium on Cardiovascular Death, Growth and Regeneration, and he is serving as co-chair of the upcoming SBE/ISSCR International Conference on Stem Cell Engineering.

Dr. Murry's current research is directed at understanding molecular pathways regulating cardiovascular differentiation from pluripotent stem cells, and then using these cells to promote remuscularization and revascularization of the injured heart. He has authored over 100 peer-reviewed papers and has supervised more than 20 undergraduates, 15 graduate students, and 23 postdoctoral fellows, many of whom have gone on to leadership positions in academia and industry. His research program is multidisciplinary, spanning cell biology, integrative physiology, bioengineering and clinical studies. His group pioneered the use of gene therapy and cell transplantation to promote growth of new muscle in the infarcted heart and established protocols for directing the differentiation of human pluripotent stem cells into cardiomyocytes. They showed that transplanting human cardiomyocytes or engineered human heart tissue forms human myocar-

dium in experimentally infarcted hearts, thereby preventing development of heart failure. Most recently, Dr. Murry's focus has turned to the derivation of induced pluripotent stem cells from patients with genetically based cardiomyopathy. They are establishing systems for understanding genotype-phenotype correlations in cardiomyopathy, with a long term goal of identifying novel therapies for these diseases.

Previous Award Winners...

Richard Moss

(Kyoto, Japan: 2010)

Elizabeth Murphy

(Sapporo, Japan: 2009)

David Eisner

(Athens, Greece: 2008)

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)