

Peter Harris, M.D., Ph.D. 1923 - 2002

Peter Harris was an influential international statesman in cardiology. A science scholar at King's College, London, UK, Harris trained in medicine at Kings College Hosp., qualifying in 1946. During house appointments at King's and the Brompton Hosp., he obtained his MD in 1951, winning the university gold medal and a PhD in 1955. He was appointed lecturer, in 1957, and reader in medicine, in 1962, at Birmingham University. In 1966, he was appointed the first Simon Marks' Professor of Cardiology at the Cardiothoracic Institute and Director of the Institute of Cardiology, in the Univ. of London.

His career, which was dedicated to exploring the cardiovascular system and the origins of heart disease, can be viewed as three chapters. During the 1950's and early 1960's, he was in the mainstream of research, and used established methods of haemodynamic measurements to explore cardiac output and pulmonary blood flow and the metabolism of the heart muscle. [During]...the second stage of his career ...his research into the heart muscle turned to experiments at the cellular and molecular level. In 1970, Harris organized a meeting of ...an international study group for research in cardiac metabolism, which resulted in the publication of one of the most influential works on cardiology: *Calcium and the Heart*. The third element to Harris's career involved his fascination with the evolution of the cardiovascular and related systems. In a series of essays in 1983, he traced the way that the origins of clinical heart failure might lie in ancient reflexes. His study of the right ventricle of the heart and the blood flow to the lungs of yaks showed they had adapted genetically to high altitude by eliminating the vasoconstrictor response due to reduction of oxygen.

Away from the laboratory, he was a talented musician and artist, and he showed a leaning toward satirical writing. His wife Francesca survives him.

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About the Award...

Created in 1986, this very distinguished Award of international importance is the highlight of each World Congress of the ISHR. It is conferred in recognition of a lifetime of distinguished scientific achievements in the field of cardiovascular research.



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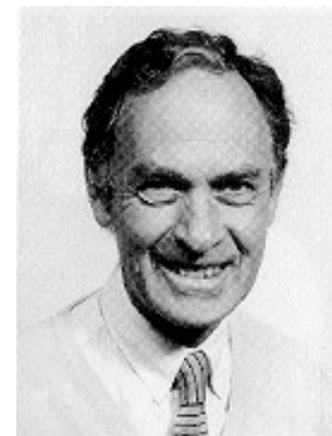
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ISHR

International Society for Heart Research

The Peter Harris Distinguished Scientist Award 2013



Peter Harris, M.D., Ph.D.
1923-2002

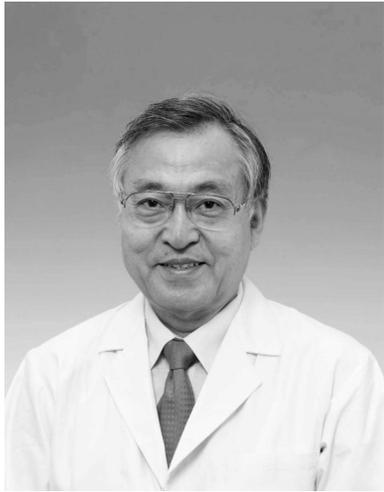
Award Winner

Masatsugu Hori, M.D., Ph.D.

“Thirty years for cardioprotection
against ischemia and injury”

Masatsugu Hori, MD, PhD

2013 Award Winner
San Diego, CA, USA



Dr. Masatsugu Hori is currently the President of Osaka Medical Center for Cancer and Cardiovascular Diseases and the President of ISHR-Intl. He graduated from Osaka University School of Medicine *magna cum laude* and obtained his MD in 1970. He trained as a resident at

Osaka University Hospital for three years, and received his PhD degree for a simulation study of the ECG T-wave based on the ventricular gradient of action potentials. Dr. Hori was appointed Assistant Professor, Division of Cardiology in 1979. He moved to Albert Einstein College of Medicine, Yeshiva University in New York as a Visiting Assistant Professor for two years (1979-1981) and engaged in research work on cardiac hemodynamics under the mentorship of Professors E.H.Sonnenblick, E.L.Yellin and E.Kirk. After returning to Osaka University, he was appointed as a chief of cardiology in 1989, and was promoted to Professor of Medicine, Osaka University in 1997.

Dr. Hori began his research work with the hemodynamic assessment of diastolic function of the heart, particularly in LV relaxation and LV suction using open chest dogs with prosthetic mitral valves. He further investigated the interaction of systolic contraction with diastolic relaxation using a servo-controlled isolated canine heart and elucidated a load dependency of LV relaxation, prominently observed in the aged heart.

To investigate the pathophysiology of the coro-

nary no-reflow phenomenon, Dr. Hori studied coronary hemodynamics and myocardial ischemia in the microembolization of coronary arteries. He found the coronary hyperemic flow response after coronary microembolizations, which mimics the “slow flow (TIMI-2 flow)” after recanalization in patients with acute myocardial infarction (AMI). This flow response is attributed to endogenous adenosine release, and he also elucidated the role of platelet aggregation in thromboembolism. His group was the first to investigate the no-reflow in patients with AMI by using myocardial contrast echocardiography (MCE).

Dr. Hori observed the enhanced adenosine production in ischemic preconditioning via increased activity of 5'-nucleotidase induced by PKC activation, which attenuates ischemic injury by cellular protection and improvement of coronary microcirculation. He also found that late ischemic preconditioning (second window) is attributable to enhanced Mn-SOD production which also contributes to exercise/hyperthermia-induced cardioprotection.

Dr. Hori also investigated signal transduction in cardiac hypertrophy and elucidated the molecular mechanism of activation of HB-EGF – GPCR induced shedding of HB-EGF by metalloproteinase in hypertrophic signaling. In addition, he clarified the signaling pathway in Ang II – ASK-1 – MAPK regulating hypertrophy and cardiac apoptosis induced by oxidative stress.

The main focus of his current research is on the molecular mechanisms of cardiomyocyte death, *i.e.* necrosis, apoptosis and autophagic death. Particularly, he and his colleagues elucidated the protective role of autophagy in cardiac hypertrophy and failure. More recently, he has studied the molecular mechanisms of inflammation in the pathogenesis of heart failure.

In clinical research, Dr. Hori conducted a large registry (OACIS) for acute coronary syndrome (ACS) in which classic and genetic risk factors for ischemic heart disease were elucidated. Based on a genome wide sur-

vey, he found that SNPs of lymphotoxin α is a key genetic risk factor for the prognosis of ACS patients. He also conducted several clinical trials for chronic heart failure (MUCHA, J-CHF and J-DHF) and for atrial fibrillation (JAST, J-ROCKET AF). He also organized the initial set-up of cardiac transplantation and LV assist devices (LVAD) in Japan.

Dr. Hori has served in leadership roles in many major scientific societies, and contributed to the writing of JCS clinical guidelines for cardiovascular diseases. He has hosted several major scientific meetings. Recently, he organized the ISHR World Congress in 2010 as a chair and president of the society. He currently serves as an Associate Editor of *Circulation Research* and is on the editorial board of several major international journals. He has published a total 520 original articles in international journals.

Past Award Winners

James M. Downey, USA

(Kyoto, Japan: 2010)

David J. Hearse, UK

(Bologna, Italy: 2007)

Arnold M. Katz, USA

(Brisbane, Australia: 2004)

Robert J. Lefkowitz, USA

(Winnipeg, Canada: 2001)

Lionel H. Opie, South Africa

(Rhodes, Greece: 1998)

Howard E. Morgan, USA

(Prague, Czech Republic: 1995)

Robert B. Jennings, USA

(Kobe, Japan: 1992)

Albrecht Fleckenstein, Germany

(Ann Arbor, MI, USA: 1989)

Seturo Ebashi, Japan

(Melbourne, Australia: 1986)