

## The President's Lecture

In October 2004, the International Council created a new distinguished lecture, named The President's Lecture, which is a highlight of ISHR World Congresses and Section meetings.

The President's Lecture is held at each World Congress of the ISHR and, in non-Congress years, at the annual meeting of one of the 3 largest ISHR Sections on a rotating basis. This lecture is intended to be a high profile event and is scheduled as a keynote plenary lecture. The International Council selects the speaker. **The topic of the lecture is in the field of molecular biology, genetics, genomics or proteomics, but the content should be chosen to be of broad interest to the cardiovascular community.** The speaker is reimbursed for travel expenses, and receives a plaque and a \$1,000 honorarium. A photograph and biosketch of the speaker is published in *Heart News and Views*, and is posted in the ISHR website.

The President's Lecture enhances the content of the ISHR scientific meetings by providing a high-quality presentation in a topical area that is not covered by other distinguished lecture awards, and reflects the continuing growth of the ISHR as a professional Society.

This award is funded by a generous donation from **Roberto Bolli, MD**, Winner of the ISHR 2004 Research Achievement Award, who declined to collect the monetary prize associated with the Award and requested that it be used for this purpose.



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International Society for Heart Research

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# ISHR

International Society for Heart Research

## The President's Lecture 2015



Honored Speaker

**Rui-Ping Xiao,  
M.D., Ph.D.**

**"A Central Role of MG53 in  
Metabolic Syndrome and  
Diabetic Cardiomyopathy"**

## Rui-Ping Xiao, M.D., Ph.D.

2015 Honored Speaker  
Bordeaux, France

Rui-Ping Xiao, M.D., Ph.D., is a professor at the Institute of Molecular Medicine, Peking University, (IMM-PKU). Dr. Xiao was trained as a physician-scientist in both China and the United States. Briefly, she received her M.D. and medical training at Tong-Ji Medical University, China. To pursue further scientific training, she went to the United States in 1988, and spent more than 20 years in National Institute on Aging (NIA), NIH, from a postdoctoral fellow to a tenured Senior Investigator and the Chief of the Receptor Signaling Section. Overlapping with her training at NIH, she also completed her Ph.D. study in the Medical School of University of Maryland from 1991 to 1995. Additionally, in 2005, she was invited by Peking University to serve as the Founding Director of IMM-PKU (initially as a volunteer), and became a full-time returnee through the Chinese 1000-elite Program in 2010.

Dr. Xiao's main scientific focus has been on G-protein coupled receptor (GPCR) as well as insulin receptor signaling in the cardiometabolic system. The scope of her scientific work covers three intertwined programs: (I)  $\beta$ -adrenergic receptor ( $\beta$ -AR) subtype signaling in cardiovascular system; (II) Regulation of cardiomyocyte viability and excitation-contraction coupling by  $Ca^{2+}$ /calmodulin-dependent kinase II (CaMKII) in normal and failing hearts; and (III) Identification and characterization of cardiometabolic disease-related novel genes and pathways. More than 120

scholarly articles documented Dr. Xiao's major scientific achievements and contributions. Her early scientific career (at NIH) focused on subtype-specific signal transduction of  $\beta$ 1-AR and  $\beta$ 2-AR in the heart. One of her major contributions to cardiovascular field is the discovery of the dual coupling of the  $\beta$ 2-AR to both stimulatory and inhibitory G proteins (Gs and Gi). As a result,  $\beta$ 1-AR and  $\beta$ 2-AR play distinctly different, and even opposing roles in the regulation of cardiac excitation-contraction coupling and, in particular, in the pathogenesis of heart failure with the  $\beta$ 1-AR acting as a "foe" and the  $\beta$ 2-AR as a "friend in need" due to its concurrent anti-apoptotic/anti-necrotic effect and beneficial contractile support. This perception of subtype-specific  $\beta$ -AR signaling may lead to new therapeutic interventions in improving the structure and function of the failing heart. Dr. Xiao's pioneering work on the role of CaMKII in the regulation of cardiac excitation-contraction coupling, cardiac pacemaker activity, and cardiomyocyte survival and death also have far-reaching biological and therapeutic implications.

Over the past decade, Dr. Xiao has been serving as the Founding Director of IMM-PKU. As the first autonomous research institute, the IMM-PKU was founded in January 2005, and was designed as a interdisciplinary research center reflecting of PKU's focus on excellence in biomedical research and education. Her research program in IMM-PKU has been focusing on metabolic syndrome, diabetes and related cardiovascular complications, with a major emphasis on a translational approach to take bench discoveries into clinically relevant situations. Her recent studies have demonstrated that a striated muscle-specific TRIM family protein, Mitsugumin 53 (MG53, also known as TRIM72) acts as an E3 ligase and its upregulation causes ubiquitin-dependent degradation of insulin receptor and IRS1, contributing an important mechanism of insulin resistance in metabolic syndrome, type-2

diabetes and various cardiovascular complications.

In addition to her scientific achievements, Dr. Xiao has established herself as an excellent mentor. She has advised a worldwide coterie of young investigators and students from China, France, Germany, Japan, Russia, Italy, Morocco, Korea, and the USA. Most of her former trainees have successfully competed for independent research positions upon completion of their training. During her tenure as the Women Scientist Advisor of the NIA at NIH (two terms from 1999-2005), she inspired and mentored many women scientists.

Dr. Xiao is currently serving as an Associate Editor for the *New England Journal of Medicine* (NEJM), an Associate Editor of the *Journal of Molecular Medicine* (JMM), and an Editorial Board Member of multiple international journals. Since 2002, she has served as a member of the International Council of the International Society of Heart Research (ISHR), and a Member of many scientific societies including ISHR, AHA, and the American Society for Clinical Investigation (ASCI).

### Previous Award Winners.....

**Keiichi Fukuda, MD, PhD:** Miami, FL 2014

**Richard N. Kitsis, MD:** San Diego, CA 2013

**Steven Houser, PhD:** Fukuoka, Japan 2012

**Sian Harding, PhD:** Haifa, Israel 2011

**Issei Komuro, MD, PhD:** Kyoto, Japan 2010

**R. John Solaro, PhD:** Baltimore, MD 2009

**Gerd Hasenfuss, MD:** Yokohama, Japan 2008

**Jeffrey Robbins, PhD:** Bologna, Italy 2007

**Mark Sussman, PhD:** Toronto, ON 2006