Dr Masao Endoh

2011 Recipient of the ISHR Distinguished Leader Award

Dr ENDOH is Emeritus Professor of Yamagata University School of Medicine, Department of Pharmacology. Before retirement, he acted as the Dean of the School of Medicine, and vice-President of the University.

Dr Endoh associated with the ISHR in the early 1970's. Until retiring in the early 2000's, he served as an International Council member of the ISHR and played an important role in the collaboration of the Japanese Section with the International Society. He organized the *19th Annual Meeting of the ISHR Japanese Section* as the chairman of the organizing committee in Yamagata in 2002.

Dr Endoh has attended a number of international meetings, often as an invited speaker and/or to chair a session, including *The ISHR World Congresses* in Kobe (1992), Prague (1995), Rhodes (1998), Brisbane (2004), and Kyoto (2010); *North American Section Meetings* in Mobile and Wisconsin; *Chinese Section Meetings* in Harbin, Yangchow, and Weihai; the *European Section Meeting* in Dresden; and he has been a regular participant at *Japanese Section Meetings*.

His research interest has been the regulation of cardiac contractility induced by physiological, pathophysiological and pharmacological interventions in intact myocardium and myocardial cells. Research topics include: (*i*) receptor-mediated regulatory mechanisms; (*ii*) mechanisms of novel inotropic agents; and (*iii*) physiological interventions including force-frequency relationship and acidosis, which have been summarized in several review articles in international journals of pharmacology.

Dr Endoh was the first in the world to demonstrate that myocardial α-adrenergic receptor stimulation increases myofilament Ca^{2+} sensitivity in association with a small increase in Ca^{2+} transients in aequorin-loaded rabbit papillary muscle. Later, he elucidated that angiotensin II and endothelin-1 share a similar mode of inotropic action in aequorin- and/or indo-1-loaded ventricular myocardium and/or cardiomyocytes. Furthermore, he clarified that the GPCR crosstalk, namely endothelin-1 and norepinephrine, plays a crucial role in contractile regulation due to Ca^{2+} transients and myofilament Ca^{2+} sensitivity via PKA, PKC and PKG activation in canine ventricular myocardium.

Dr Endoh also determined that novel cardiotonic agents such as dobutamine, amrinone, milrinone, olprinone, enoximon, Org-9731, UK-1745, UD-CG 212 and OR-1896 act by increasing cellular cyclic AMP by activation of adenylyl cyclase or inhibition of PDE 3. By contrast, he showed that Ca^{2+} sensitizers, such as sulmazole, MCI-154, theophylline, Org 30029, levosimendan, SCH00013 and EMD 57033 that act, in addition to causing a moderate increase in Ca^{2+} transients, by an increase in myofilament Ca^{2+} sensitivity, effectively elicit a positive inotropic effect even under acidotic conditions, in which Ca^{2+} mobilizers lose their effectiveness as cardiotonic agents.

The role of muscarinic cholinergic receptor activation in the regulation of ventricular contractility has long been a major focus of Dr Endoh's research interest. He showed that muscarinic receptor activation can be employed as an excellent pharmacological tool to differentiate cyclic AMP-mediated and cyclic AMP-independent mechanisms, in which the positive inotropic effect of β-adrenoceptor agonists, PDE 3 inhibitors and levosimendan is inhibitable, but cyclic AMP-independent effects, induced by α-adrenoceptor agonists and Ca^{2+} sensitizers such as Org30029, EMD 57033 *etc*, are unaffected by muscarinic stimulation. Activation of PKA, PKC, and PKG play key roles in the crosstalk between muscarinic stimulation and positive inotropic interventions.

Dr Endoh is recognized internationally as an expert in receptor-mediated cardiac signaling in contractile regulation, namely the role of Ca^{2+} in this regulation. He has published more than 200 peer reviewed manuscripts in the field of cardiac excitation-contraction coupling in intact myocardium and cardiomyocytes. He received the prestigious *ISHR Keith Reimer Distinguished Lecture Award* in 2005.

Dr Endoh has also contributed to the development of cardiovascular science by serving as an editor and/or reviewer for a number of international journals. He is

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ISHR MEETINGS CALENDAR

- **May 19-22, 2012.** **XXXI Annual Meeting of the European Section** (will be held jointly with the ESC HFA). Belgrade, Serbia. *Website:* www.escardio.org/congresses/hf2012/Pages/welcome.aspx
- **May 28-31, 2012.** **XXXIII Annual Meeting of the North American Section.** Banff, AB, Canada. **Organizer:** Dr Gary Lopaschuk (gary.lopaschuk@ualberta.ca). *Website:* www.american.ishrworld.org
- **August 16-19, 2012.** **XXXVI Annual Meeting of the Australasian Section.** Brisbane Convention Center, Brisbane, Australia. *Website:* www.csanz2012.com
- **October 26-27, 2012.** **XXIX Annual Meeting of the Japanese Section.** Fukuoka, Japan. **Organizer:** Dr Kenji Sunagawa (sunagawa@cardiol.med.kyushu-u.ac.jp)
- **June 30 - July 4, 2013.** **XXI World Congress of the ISHR.** San Diego, California. **See page 13**

Dr Wayne Chen delighted the audience during his conference, showing not only great knowledge but also a fine sense of humour.

Finally, we would like to remind all ISHR members that in 2016 the World Congress of the ISHR will be held in Buenos Aires. Let us be your host and help you experience the Latin touch in another wonderful and welcoming meeting.

Dr Margarita Ana Salas
La Plata, Argentina

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cardiotoxicity, but Force dispelled that myth with the first report of cardiotoxicity with one of these agents (*Nat Med* 2006), and went on to identify the mechanism. This work increased scrutiny of these agents and culminated in the identification by Ming Hui Chen and Force of very significant cardiotoxicity with sunitinib, an agent widely used in various solid tumors (*Lancet* 2007). This, and work by a small group of others in 2006-2007 helped launch the concept of a medical sub-speciality called Cardio-Oncology, and also led to the development of guidelines for treating patients with these agents from the Heart Failure Association of the ESC and the U.S. National Cancer Institute, committees on which Force sat. Clearly, identifying potentially problematic agents before they are used in patients is a critical issue and most recently, Force has explored the use of zebrafish as a pre-clinical tool to attempt to do just that (*Circ Res* 2011).

Recently, Force was named incoming President of the Heart Failure Society of America. He also serves on numerous committees for the American Heart Asciation. Finally, Force would like to thank all the other collaborators and friends who have supported him, and most of all to thank the students, post-doctoral fellows, and technicians who actually performed the work. Without them, none of this work would have been possible. Force would also like to thank his wife and children for their support and encouragement.

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currently acting as Consulting Editor of *Journal of Molecular and Cellular Cardiology*, *Circulation Research*, and *Cardiovascular Research*; Associate Editor of *Pharmacology and Therapeutics*; Section Editor of *Journal of Cardiovascular Drugs and Therapy*; and Editorial Board Member of *European Journal of Pharmacology*, *Naunyn-Schmiedeberg's Archiv of Pharmacology*, and the *Journal of Cardiovascular Pharmacology*. He also receives manuscripts for reviewing from a number of other cardiovascular journals, including *Circulation*, *Journal of Pharmacology and Experimental Therapeutics*, and the *British Journal of Pharmacology*.