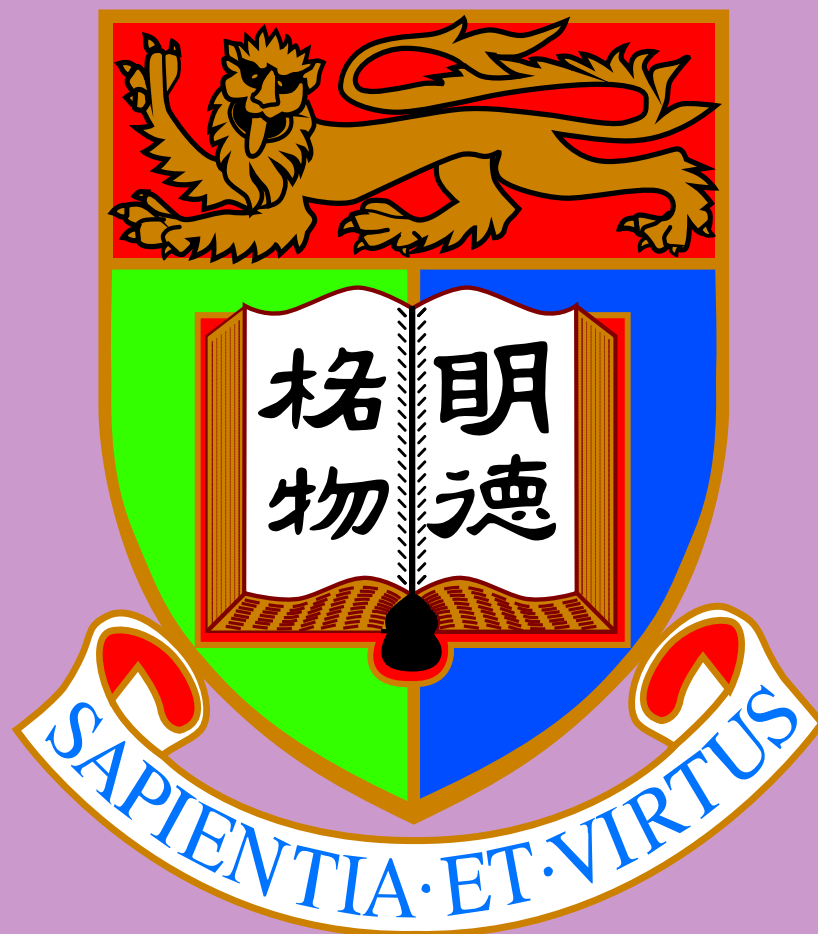


# 香港大學心臟血管研究所

THE INSTITUTE OF CARDIOVASCULAR  
SCIENCE AND MEDICINE



*2012 Annual Report*

Mission Statement of the  
Institute of Cardiovascular Science and Medicine

***The Institute of Cardiovascular Science and Medicine (ICSM) commits itself to strive for excellence in research, teaching and training in cardiovascular sciences which contributes to the prevention and patient management of cardiovascular diseases in Hong Kong.***

***We shall offer the highest standards of teaching research and scholarship in an interactive environment conducive to creativity, to innovative learning and to freedom of thought, enquiry and expression in all aspects of cardiovascular sciences.***

***We shall continue to undertake research, teaching and other forms of service in clinical and basic cardiovascular sciences which will advance our quest for wisdom, truth and excellence in biomedical science at large.***

***We shall make known the mission of this Institute in Hong Kong and internationally.***

# Governance

## Council

The members of the Institute elect a Council, who are responsible for carrying out the work of the Institute according to its Mission, Objectives, By-Laws and Regulations. The Council consists of the Officers, the immediate Former Director (if available), and three to ten Council Members. The Officers of the Institute are the Director, Deputy Director, Honorary Secretary and Honorary Treasurer. Each Council serves the Institute for a period of two years. The Seventh Council of the Institute was elected at the 15th Annual General Meeting on 17th September 2011, and remained in office throughout 2013.

## Eighth Council of the ICSM

Director:	Professor B.M.Y. Cheung	Council Members:	Professor Y.F. Cheung
Deputy Director:	Dr. H.J. Ballard		Dr. M.L. Fung
			Professor Y. Huang
			Professor R.A. Li
Honorary Secretary:	Dr. G.P.H. Leung		Dr. E.H.C. Tang
			Professor H.F. Tse
			Professor P.M. Vanhoutte
			Professor T.M. Wong
Honorary Treasurer:	Dr. S.W.S. Leung		Professor X.Q. Yao

## Membership

At the end of the year 2012, membership stood at 112, and consisted of 12 Founding Members, 41 Full Members, 6 Associate members and 53 Affiliate Members.

### Criteria for membership

Clinicians, scientists, researchers and students with an interest in the cardiovascular field are invited to become members of the Institute. The classes of membership open to applicants are Full, Associate or Affiliate Membership.

#### *All applicants for admission shall*

1. Be at least 18 years of age; and
2. Be of good character and repute; and
3. Undertake in writing to adhere to the By-Laws of the Institute, as amended from time to time.

#### *Applicants for admission as a Full Member shall also*

1. Be a full time or honorary teacher (Assistant Professor, Honorary Clinical Lecturer or above) of the University of Hong Kong or be deemed to be holding an equivalent position; and
2. Be engaged in research in cardiovascular science or cardiovascular medicine, as evidenced by his or her published works.

#### *Applicants for admission as Associates shall also*

1. Possess either a medical degree (MBBS or equivalent) plus a higher qualification (MRCP or equivalent), or a doctorate (PhD or equivalent) in science; and
2. Be engaged in research in cardiovascular science or cardiovascular medicine.

#### *Applicants for admission as Affiliates shall also*

1. Possess a University degree or equivalent in medicine, nursing or science; and
2. Be engaged in or have a strong interest in cardiovascular research.

Applications for membership, accompanied by the appropriate supporting documents (e.g. resume, list of relevant publications, copies of certificates) should be submitted to the Honorary Secretary, to whom membership enquiries may also be addressed. The application form may be obtained by writing or e-mailing ([icsm@hkucc.hku.hk](mailto:icsm@hkucc.hku.hk)) to the Honorary Secretary, or it may be downloaded from the membership section of our website (<http://www.icsm-hk.org>)

## Research

### Scientific Meetings

#### The Sixteenth Annual Scientific Meeting: From Cell to Therapy 2012

The Sixteenth Annual Scientific Meeting was held on November 17<sup>th</sup> 2012 at the Hong Kong Convention & Exhibition Centre, under the Co-chairmanship of Professor Bernard Cheung, Professor Paul Vanhoutte, Dr. Heather Ballard, Dr. David Siu and Dr. Susan Leung.

The meeting started in the morning with oral and poster presentations by the young investigators: 22 abstracts were submitted for the meeting, and prizes were awarded to the best oral communications and the best poster presentations. The Young Investigator Awards were sponsored by the Sun Chieh Yeh Heart Foundation.

The scientific programme in the afternoon comprised two Symposia: The topics of first Symposium included 'Are all ARBs created equal for blood pressure management', 'The slower, the better' and 'Development of stem cell therapy product-cellgram'. The lectures were given by Professor G. Bakris from University of Chicago (USA), Dr P. Letecheur from Servier Pharmaceutical Research and Development CO (Beijing) and Dr. HS Kim from Pharmaicell (Korea). In the Second symposium, a lecture on 'Mechanisms of somatic cell reprogramming' was delivered by Professor MS Esteban from Chinese Academy of Sciences (Guangzhou) and another lecture on 'Adiponectin, AMP-activated protein kinase and endothelial regeneration: mechanisms and therapeutic implications' was given by Professor A. Xu from the University of Hong Kong.

The meeting closed with a brief address from ICSM Director, Professor Bernard Cheung, and presentation ceremony for the Young Investigator Awards.

### Seminars

To encourage the interactions among younger researchers, a series of quarterly seminars on cardiovascular research was organized. The first seminar was held on 5<sup>th</sup> June 2012. The topics were 'Surrogate markers of atherosclerosis in Research of Cardiovascular Diseases' and 'Prostaglandin E2 alleviates adipose tissue inflammation', which were presented by Dr. Gary Lau, Department of Medicine of HKU and Dr. Eva Tang, Department of Pharmacology and Pharmacy of HKU, respectively. The second seminar was held on 4<sup>th</sup> September 2012. The topics were 'Propofol postconditioning confers cardioprotection by reducing peroxynitrite production: role of HO-1/STAT 3 signaling' and 'Calicum signaling in human embryonic stem cell derived ventricular cardiomyocytes (hESC-VCMs)', which were presented by Mr. Xiaowen MAO from Department of Anesthesiology of HKU and by Mr Sen Li, Department of Medicine of HKU, respectively.

External Research Grants awarded in 2012 to members of the ICSM

Principal/Co Investigator	Awarding Body	Project Title	Awards (HK\$)
Professor B.M.Y. Cheung (PI)	RGC GRF	Does an elevated lipocalin-2 concentration in plasma lead to endothelial dysfunction and hypertension?	1,158,894
Prof Y. Huang (PI)	RGC GRF	Functional importance of PPAR $\delta$ and SIRT1 interaction in protecting endothelial function in diabetes and obesity	1,300,000
Dr. G.R. Li (PI)	RGC GRF	Roles of Functional Ion Channels in Migration and Proliferation of Human Cardiac c-Kit <sup>+</sup> Cells	850,000
Dr. E.H.C. Tang (PI)	RGC GRF	Activation of prostaglandin E receptor 4: a novel anti-inflammatory mechanism that protects against adipose tissue inflammation and obesity-related complications.	850,000
Professor H.F. Tse (PI)	RGC GRF	Therapeutic Effects and Mechanism of Sympathorenal Axis Modulation by Catheter-based Renal Denervation in Porcine Model of Ischemic Heart Failure	1,200,000
Professor P.M.G.R. Vanhoutte (PI)	RGC GRF	Role of adipose SIRT1 in regulating systemic energy homeostasis and vascular function: focus on biotin, biotinyl enzymes and lipid metabolism	950,000

## ICSM publications in 2012

Abstracts from the Sixteen Annual Scientific Meeting (held in November 2012) were published in October 2012 issue of the Journal of the Hong Kong College of Cardiology (Volume 20, No. 2, pp.43-62)

KL Ong, KA Rye, R O'Connell, AJ Jenkins, C Brown, A Xu, DR Sullivan, PJ Barter, AC Keech	LONG-TERM FENOFIBRATE THERAPY INCREASES FIBROBLAST GROWTH FACTOR 21 AND RETINOL- BINDING PROTEIN 4 IN SUBJECTS WITH TYPE 2 DIABETES	48
WS Cheang XY Tian, WT Wong, CW Lau, Y Lu, X Yao, SST Lee, Y Huang	PEROXISOME PROLIFERATOR-ACTIVATED RECEPTOR DELTA (PPAR $\delta$ ) MEDIATES THE VASCULAR BENEFITS OF METFORMIN IN DIET-INDUCED OBESE MICE	48
YH Chan, KK Lau, KH Yiu, YF Yiu, SW Li, TH Lam, CP Lau, CW Siu, HF Tse	PR INTERVAL PROLONGATION STRONGLY PREDICTS NEW-ONSET MYOCARDIAL INFARCTION, ISCHEMIC STROKE, HEART FAILURE AND CARDIOVASCULAR DEATH IN HIGH- RISK CARDIOVASCULAR PATIENTS; PATHOPHYSIOLOGICAL INSIGHTS OF ADVERSE CARDIOVASCULAR FUNCTION	49
YM Liang, MSM Ip, JCW Mak	CIGARETTE SMOKE-INDUCED ANGIOGENESIS THROUGH AMPK ACTIVATION IN RAT HEART	50
L Lu, J Tu, HJ Ballard	cAMP/PKA-ACTIVATED CFTR IS REQUIRED FOR ACIDOSIS-INDUCED RELEASE OF ATP FROM SKELETAL MYOCYTES	50
CI Cheung, TT Cheung, KSL Lam, BMY Cheung	HIGH FERRITIN AND LOW TRANSFERRIN SATURATION ARE ASSOCIATED WITH PRE- DIABETES AMONG ADULTS	51
EOC Lau, B Shen, CO Wong, Y Huang, X Yao	FUNCTIONAL ROLE OF TRPC5 CHANNELS IN AORTIC BARORECEPTOR	51
K Srivastava, S Chandra, J Bhatia, R Narang, D Saluja	ANGIOTENSINOGEN (M235T) GENE AND BLOOD PRESSURE RESPONSE TO ACE INHIBITOR (ENALAPRIL) IN PATIENTS WITH ESSENTIAL HYPERTENSION	52
KL Ong, MA Allison, BM Cheung, BJ Barter, KA Rye	C-REACTIVE PROTEIN TRENDS AND ASSOCIATIONS WITH TOTAL MORTALITY IN UNITED STATES ADULTS BETWEEN 1999-2020	53
Y Zhang, J Liu, XY Tian, L Wang, WT Wong, CW Lau, Y Huang	ACTIVATION OF ANGIOTENSIN CONVERTING ENZYME-2 RESCUES ENDOTHELIAL FUNCTION BY OXIDATIVE STRESS REDUCTION IN DB/DB DIABETIC MICE	53
J Liu, XY Tian, WT Wong,	ENDOTHELIN-1 CONTRIBUTES TO ENDOTHELIAL- CELL DYSFUNCTION IN TYPE 2 DIABETES	54

LM Liu, Y Zhang, L Wang, Y Huang	DEPENDENT CONTRACTIONS IN ZUCKER FATTY RATS	
CS Lam, GL Tipoe, RCC Chang, KF So, KH Cheung, ML Fung	LYCIUM BARBARUM POLYSACCHARIDES MITIGATE CHRONIC INTERMITTENT HYPOXIA-INDUCED HIPPOCAMPAL OXIDATIVE STRESS, INFLAMMATION AND APOPTOSIS IN RATS	54
Z Li, L Zhao, LB Qian, ZG Xia, HP Wang	CARDIOPROTECTIVE EFFECTS OF TOTAL FLAVONES OF ELSHOLTZIA SPLENDENS ON ANOXIA/REOXYGENATION INDUCED INJURY IN H9C2 CARDIOMYOBLAST CELLS	55
JF Pan, J Xiao, GL Tipoe, Y Huang, ML Fung	TELMISARTAN AMELIORATES OXIDATIVE STRESS AND APOPTOSIS IN THE LIVER OF RATS EXPOSED TO CHRONIC INTERMITTENT HYPOXIA	55
RWS Li, YQ Wang, SMY Lee, SW Chan, YW Kwan, GPH Leung	VASODILATING EFFECTS OF ADTM, A NOVEL DERIVATIVE OF DANSHENSU AND TETRAMETHYLPYRAZINE	56
HK Wong, KL Ong, RYK Leung, TH Lam, GN Thomas, KSL Lam, BMY Cheung	A SINGLE NUCLEOTIDE POLYMORPHISM OF INTERLEUKIN-6 GENE IS RELATED TO PLASMA ADRENOMEDULLIN LEVELS	56
XC Ru, S Wan, Y Huang, XQ Yao	UPREGULATED TRPM2 AND ITS POTENTIAL ROLE IN NEOINTIMAL HYPERPLASIA	57
LB Qian, L Zhao, XY Li, Z Li, Y Lu, GL Zhang, HY Peng, ZG Ye, Q Xia, HP Wang	ENDOTHELIUM-DEPENDENT AND DIRECT RELAXATION INDUCED BY TOTAL FLAVONOIDS OF ELSHOLTZIA SPLENDENS IN RAT THORACIC AORTA	57
YW Tjong, XQ Yao	EFFECTS OF HYPOOSMOLARITY ON CANONICAL TRANSIENT RECEPTOR POTENTIAL 5 ACTIVITY IN RAT AORTIC ARCH BARORECEPTOR NEURONS	58
L sun, HY Yau, WY Wong, RA Li, Y Huang, XQ Yao	THE FUNCTIONAL ROLE OF TRPM2 CHANNELS IN H <sub>2</sub> O <sub>2</sub> -INDUCED CA <sup>2+</sup> -INFLUX AND CELL APOPTOSIS IN H5V ENDOTHELIAL CELLS	58
Cy Lo, YW Tjong, JCY Ho, HF Tse, XQ Yao	FUNCTIONAL ROLE OF VANILLOID TRANSIENT RECEPTOR POTENTIAL 2 CHANNEL IN HUMAN INDUCED PLURIPOTENT STEM-CELL MODEL OF HUTCHINSON GILFORD PROGERIA SYNDROME	59
CCW Poon MWK Tse, ALS Au, SK Kong, HP Ho, GPH Leung, YW Kwan	EFFECTS OF VITAMINS K <sub>2</sub> AND D <sub>3</sub> ON BONE MATRIX MINERALIZATION OF OSTEOBLASTS OF OBESE/DIABETIC (db+/db+) MICE	59
MY Lee	FLUOXETINE-INDUCED CARDIAC DEPRESSION IN ISOLATED PERFUSED RAT HEART	60
MY Lee, Sj Lee, JS Kim,	RELATION OF HYPOTHERMIA AND MAGNESIUM	60



HS Kang, SJ Kim	IN HEART	
MY Lee, Sj Lee, JS Kim, SJ Kim, HS Kang	EFFECT OF BLOOD MAGNESIUM AND CALCIUM BY FORCED HYPER- AND HYPO-VENTILATION	61
SY Lau, YL Cheung	SODIUM-RESTRICTED DIET FOR HEART FAILURE PATIENTS: AND UPDATE	61
P Zhang, Y ma, XQ Yao	NITRIC OXIDE INHIBITS 11,12-EET INDUCED PORCINE CORONARY ARTERIAL HYPERPOLARIZATION AND RELAXATION	62
KL Ong, M Messig, DA DeMicco, KA Rye, PJ Barter, DD Waters	A LOW AST- TO ALT RATIO PREDICTS NEW- ONSET DIABETES IN PATIENTS TREATED WITH ATORVASTATIN: RESCULTS FROM THE TREATING TO NEW TARGETS [TNT] TRIAL	62

## Publications of ICSM Members in 2012

Alkharfy KM, Al-Daghri NM, **Vanhouste PM**, Krishnaswamy S, Xu A. Serum retinol-binding protein 4 as a marker for cardiovascular disease in women. *PLoS One* 7(10):e48612, 2012

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