LI KA SHING FACULTY OF MEDICINE
THE UNIVERSITY OF HONG KONG
香 港 大 學 李 嘉 誠 醫 學 院

Dr Cheng Yu Tung Fellowships Symposium

December 15, 2017

Cheung Kung Hai Conference Centre
William MW Mong Block
21 Sassoon Road, Hong Kong

Sponsors

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CONTENTS

Message from Chairman of Chow Tai Fook Charity Foundation

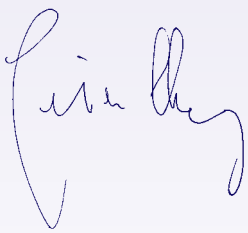
As the Dr Cheng Yu Tung Fellowships programme marks its 20th anniversary, I am very pleased to see the young and promising medical professionals returning to Mainland China with more knowledge and better skills. Over the years, many remarkable fellows have taken a leading role in their home institutions and contributed to their respective fields.

Through this long-term collaboration, we are honoured to play a part in enhancing the quality and effectiveness of the clinical service, scientific research and medical education on the mainland. Focusing on clinical training, the scholarship programme nurtures clinicians on a professional and personal level.

The Dr Cheng Yu Tung Fellowships symposium is a reunion of current and previous fellows for exchange of knowledge and experience. Just like a family, I encourage all the fellows to maintain close ties, to learn from one another, share what you know, raise the bar together, and to be a mentor and seize every opportunity to pass along your knowledge to the next generation.

We also need to make quality health care accessible and affordable to the less fortunate. Remember that your wholehearted dedication to medical development can make a lasting impact on people's lives, put a smile on their face and give them hope.

Last but not least, I would like to congratulate the Li Ka Shing Faculty of Medicine on its 130 years of legacy in leading the advancement of health care in Hong Kong and beyond. May this milestone lead to greater achievements in the years to come!



Mr Peter Cheng
Chairman
Chow Tai Fook Charity Foundation

Message from Chairman of Committee of Management

My heartiest welcome to all for attending this Dr Cheng Yu Tung Fellowships Symposium. This Symposium is organised in celebration of the 20th anniversary of the Fellowships and the 130th anniversary of the HKU Medical Faculty.

The Fellowships live out the faithful dedication of the late Dr Cheng Yu Tung to improve healthcare in the Mainland. Throughout these years, the Fellowships have succeeded in promoting the exchange of academic, research and clinical expertise between the Mainland and Hong Kong. More than 400 medical researchers and professionals from the Mainland have been supported by the Fellowships to conduct clinical attachment, healthcare management training and clinical research in the Faculty.

The world around us is unceasingly undergoing changes - changing of population demographics, increase in scientific discoveries and enhancement of medical knowledge. All these changes pose new demands and challenges to the scientific and medical communities. The Faculty has been fortunate to share in this experience and play active roles in tackling these challenges. Through the Fellowships, the Faculty has been able to witness the enhancement of the Fellows' competency in their specialties so as to ride the tide of changes. It is indeed an honour to see the contributions made by the fellows to the advancement of healthcare management and clinical practice in the Mainland over the years.

The Symposium has gathered previous and current fellows who have excelled in their professional fields and played a leading roles in their home institutions. We are pleased that some of them are here to share their attainments in research and clinical practice in keynote lectures, oral and poster presentations.

I would like to extend my heartfelt gratitude to all the fellows, our faculty members for their participation and in particular to Chow Tai Fook Charity Foundation and Chow Tai Fook Jewellery Limited to their unfailing support. I am convinced that fellows will continue the spirit of the late Dr Cheng Yu Tung to serve the community at large with pride.

Professor Ying-Shing Chan

Chairman
Committee of Management
Dr Cheng Yu Tung Fellowships

PROGRAMME

Venue: **Keynote Lectures and Oral Presentations:**
Lecture Theatre 1, Cheung Kung Hai Conference Centre

Poster Presentations:
Exhibition Area

December 15, 2017 (Friday)

08:30-09:00	**Registration**
09:00-09:15	**Opening ceremony**
Chairman: Professor William SB Yeung, The University of Hong Kong	
09:15-09:45	**Keynote Lecture I** **The role of protein phosphatase 6 in oogenesis and female fertility in mice** Professor Sun Qingyuan, Chinese Academy of Sciences
09:45-10:15	**Keynote Lecture II** **Novel strategies for neuroimaging** Professor Guo Hua, Tsinghua University
10:15-10:35	**Oral Presentation 1** **Soluble guanylyl cyclase and coronary vasoactivity** Professor Gao Yuansheng, Peking University
10:35-11:15	*Coffee break (Foyer of Cheung Kung Hai Conference Centre)* *Poster presentations (Exhibition Area)*
Chairman: Dr Sherry KW Chan, The University of Hong Kong	
11:15-11:35	**Oral Presentation 2** **Brain network dysfunction - a candidate predictive biomarker for outcome of first episode psychosis?** Dr Zhang Jie, Shantou University
11:35-11:55	**Oral Presentation 3** **Neuronal activation in anterior cingulate cortex correlates with motion sickness** Dr Zhang Fuxing, The Fourth Military Medical University, Xi'an
11:55-12:25	**Keynote Lecture III** **HCC immune atlas by CytoF and PD1 trials experience in the Mainland** Professor Fang Weijia, Zhejiang University

12:25-14:00	*Lunch/Poster presentations (Exhibition Area)*
Chairman: Professor Annie NY Cheung, The University of Hong Kong	
14:00-14:30	**Keynote Lecture IV** **The study of anti-Aβ 31-35 single chain antibody in alzheimer's disease APP/PS1 transgenic mice** Professor Qi Jinshun, Shanxi Medical University
14:30-14:50	**Oral Presentation 4** **Laparoscopic surgery for choledochal cyst in children** Professor Li Long, Capital Institute of Pediatrics
14:50-15:10	**Oral Presentation 5** **Wnt regulation of planar cell polarity in development and disease** Dr Gao Bo, The University of Hong Kong
15:10-15:40	**Keynote Lecture V** **Immunosuppression of granulocytic myeloid-derived suppressor cells derived exosomes** Professor Wang Shengjun, Jiangsu University

Keynote Lecture I

The role of protein phosphatase 6 in oogenesis and female fertility in mice

Sun Qingyuan
Chinese Academy of Sciences

Professor Qing-Yuan Sun is a Principal Investigator and Professor of Institute of Zoology, Chinese Academy of Sciences. He obtained his Ph.D. degree from Northeast Agricultural University in 1993, and did his post-doctoral training in Institute of Zoology, Chinese Academy of Sciences (CAS), Bar-Ilan University (Israel), and University of Missouri-Columbia (USA). He was promoted to a full professor in 1998. His main research interest is cellular and molecular biology of mammalian oogenesis, oocyte meiotic maturation, fertilization and embryo development, as well as developmental epigenetics. He has authored or co-authored more than 340 papers in peer-review international journals including Science, Cell, PNAS, Nat Comm, EHP, PLoS Gent, Development, JCS, JBC, MBC etc. He is currently the president of Chinese Society of Reproductive Biology, vice president of Chinese Society for Zoology, and vice president of Chinese Society for Medical Developmental Biology.

Dynamic protein phosphorylation and dephosphorylation, mediated by a conserved cohort of protein kinases or phosphatases, regulate cell cycle progression. To identify the physiological role of PP6 in female gametogenesis and fertility, we first generated a *Ppp6c* floxed transgenic mouse line and by crossing *Ppp6c*$^{F/F}$ mice with *Gdf9-Cre* and *Zp3-Cre* mice, we then obtained mutant mice with specific deletion of *Ppp6c* in oocytes from primordial or primary follicle stage. *Ppp6cF/F; GCre+* mice are infertile. Depletion of PP6c caused folliculogenesis defects and germ cell loss independent of the traditional AKT/mTOR pathway, but due to persistent phosphorylation of H2AX (a marker of double strand breaks), increased susceptibility to DNA damage and defective DNA repair on oocytes within primordial follicles, which led to massive oocyte elimination and eventually premature ovarian failure (POF). Our findings uncover an important role for PP6 as an indispensable guardian of genomic integrity of the lengthy prophase I oocyte arrest, maintenance of primordial follicle pool, and thus female fertility.

Ppp6c$^{F/F}$*; ZCre+* mice suffered severe female subfertility with normal follicle growth and ovulation. Further study showed that PP6c was dispensable for oocyte meiotic maturation but essential for efficient MII exit after fertilization, since depletion of PP6c caused deformed MII spindle and disrupted MII cytokinesis, resulting in zygotes with high risk of aneuploidy, defective early embryonic development, thus subfertility. We also revealed that loss of PP6 function interfered with MII spindle formation and MII exit due to increased Aurora A activity, and that Aurora A inhibition with MLN8237 could rescue the PP6c depletion phenotype. Our findings uncover a hitherto unknown role for PP6 as an indispensable regulator of oocyte meiosis and female fertility.

Keynote Lecture II

Novel strategies for neuroimaging

Huo Guo
Tsinghua University

Professor Hua Guo is a Principle Investigator at Center for Biomedical Imaging Research, Department of Biomedical Engineering at Tsinghua University in Beijing. He received his Ph.D. from the Department of Biomedical Engineering at Duke University in 2006. He was Assistant Professor in Department of Radiology of New York University from 2008 to 2010. Before that he once worked in Siemens as a scientist and at The University of Hong Kong as a postdoc. He has extensive research experience in MRI physics, advanced imaging method development and preclinical studies. His primary research interest focuses on two core areas in MRI. The first one is MRI physics including novel sequence design and image reconstruction, which can potentially provide high spatiotemporal resolution and multi-parametric quantitative imaging. Particularly, he is working on high resolution diffusion weighted imaging at present. The second area is the translational application of advanced MRI techniques for accurate diagnosis and disease management.

Diffusion weighted MR imaging can probe not only microstructural but also functional information of the tissue, thus it has tremendous potentials in clinical applications and neuroscience research. Due to technical limitations, traditional DWI uses single shot acquisition method to suppress motion artifacts, which inevitably has low spatial resolution, low signal to noise ratio and severe image distortion artifacts. Multi-shot diffusion imaging can be used to increase the spatial resolution. However, diffusion MRI is very sensitive to subject motion, including bulk head motion and pulsatile brain motion. In this report, I will first introduce our recent development in advanced diffusion imaging using mulitishot EPI, spiral and Turbo spin echo sequences. Then I will present other novel neuroimaging techniques developed in our center, including gray matter and white matter imaging, blood vessel imaging. Finally, I will show a few clinical applications by using these techniques.

Keynote Lecture III

HCC immune atlas by CytoF and PD1 trials experience in the Mainland

Fang Weijia
Zhejiang University

Professor Weijia Fang is Director of Biotherapy Center of Medical Oncology, First Affiliated Hospital, School of Medicine, Zhejiang University. He has completed the rotating internship and residency at the First Affiliated Hospital, Zhejiang University and was subsequently awarded clinical fellowships in medical oncology in the same hospital. He established his own department and became Director of Biotherapy Center of Medical Oncology at the First Affiliated Hospital, Zhejiang University in 2014. He was elected a full member of American Society of Clinical Oncology (ASCO) and the Chinese Society of Clinical Oncology (CSCO). He has accumulated a wealth of clinical experience in chemotherapy, target therapy and biotherapy of solid malignancies, mainly in digestive system neoplasms. He has participated in more than 20 international and domestic clinical trials of anticancer therapies. His team focuses on the translational research of microflora and immune altas of the so-called Immuno-Oncology area.

Our team have accomplished the first part of our project of the mass spectrometry and the in situ single molecule experiments. The results are: (1) We preliminarily divided immunocytes in the liver into 33 subgroups by doing the mass spectrometry and the biological information analysis revealing a different and unmet atlas of T cells and DC cells subgroups, Monocyte/Macrophage cells, NK cells and B cells subgroups, et; (2) We had used the in situ single molecule dynamic technology to test the interaction of PD-1 and PDL-1 on the surface of T cells, and found by the first time to our knowledge that the biological mechanical force can extend the combination time of PD-1 and PDL-1, which potentially regulated the PD-1 suppressing function. We suppose that the liver tumor microenvironment could change the modification state after translation of PD-1 on T cells or Kuppfer cells, which affect the dynamic interaction of PD-1 and PDL-1, and then suppress the activation of immune cells, leading to the occurrence and development of tumor.

Keynote Lecture IV

The study of anti-Aβ31-35 single chain antibody in alzheimer's disease APP/PS1 transgenic mice

Qi Jinshun
Shanxi Medical University

Professor Jinshun Qi is Professor of Physiology at Shanxi Medical University and a Principal Investigator of Key Laboratory of Cellular Physiology, Ministry of Education. He graduated from Changzhi Medical College in 1980, and received his Master's Degree from Tianjin Medical College in 1990. He got his PhD from Shanxi Medical University under the supervision of Professor Jiantian Qiao in 2000. He finished postdoctoral research in Penn State University during 2003-2006 and visited Hong Kong University Medical College in 2008 as a Dr Cheng Yu Tung fellow. He became Professor of Physiology and established his Laboratory of Neurophysiology in 2000. He was elected an executive council member of the Chinese Association for Physiological Sciences in 2010. He is interested in understanding the cellular and molecular pathogenesis of Alzheimer's Disease (AD) using a combination of behavioral, molecular and electrophysiological techniques, with a specific focus on the active center of amyloid beta peptide (Aβ), an important biomarker in the AD brain. His group has helped to pioneer several new approaches including in vivo hippocampal long term potentiation (LTP) recording and brain slice non-invasive micro-test (NMT). With these techniques, they indicated the shortest active center of Aβ and investigated the neuroprotection of some peptide and a novel single chain anti-Aβ 31-35 antibody scFv17 in transgenic AD animals.

Although with some side effects, the immunotherapy for AD is still promising in improving cognition and memory by clearing amyloid β protein (Aβ) in the AD brain. Our previous researches have shown that the sequence 31-35 in the Aβ molecule could be the shortest active center with neurotoxicity, and a polyclonal antibody against Aβ31-35 reduced neuronal apoptosis and cognitive impairments induced by Aβ direct injection. Recently, we designed a novel single-chain variable fragment (scFv) monoclonal anti-Aβ31-35 antibody (scFv17) which specifically recognizes the extracellular Aβ, not affecting membrane-bound amyloid precursor protein (APP). By using APP/PS1 transgenic mice, we investigated the effects of the scFv17 on the spatial learning and memory, the hippocampal synaptic plasticity and the AD pathological charecteristics in the brain. Our results showed that the anti-Aβ31-35 scFv17, by reducing Aβ pathology and increasing anti-inflammation, improved the synaptic plasticity and spatial memory of the APP/PS1 transgenic mice, suggesting the scFv17 may be a novel alternative to current immunotherapy of AD.

Keynote Lecture V

Immunosuppression of granulocytic myeloid-derived suppressor cells derived exosomes

Wang Shengjun
Jiangsu University

His research has been focusing on autoimmune diseases (such as rheumatoid arthritis and Hashimoto's thyroiditis) and tumor immunology. Studies in RA patients and animal model have aimed to examine the subset of CD4+T cells and its role in maintaining quality control and homeostasis in the immune system. He is also interested in studying the tumor therapy by biological response modifiers. As Principle Investigator, he has chaired and completed more than 10 national and provincial research projects sponsored by the National Natural Science Foundation of China and the Natural Science Foundation of Jiangsu Province, and won a number of provincial prizes for his academic achievements. He has published over 100 peer-reviewed papers, such as J Immunol, Eur J Immunol, Am J Pathol, and PNAS. He has served as a reviewer for 15 international journals and been on the editorial board of Front Immunol. He has supervised more than 40 doctoral and master's degree candidates.

Myeloid-derived suppressor cells (MDSC) are broadly considered as a heterogeneous population of immature myeloid cells that dampen the immune response and accumulate in pathological cases of tumor, inflammation, and pathogen infection. Murine MDSCs can be further subdivided into two different subsets based on their expression of Ly-6C and Ly-6G. $CD11b^{+}Ly\text{-}6G^{+}Ly\text{-}6C^{low}$ cells showing granulocyte-like morphology are termed granulocytic MDSCs (G-MDSCs), whereas $CD11b^{+}Ly\text{-}6G^{-}Ly\text{-}6C^{high}$ cells with monocytic-like morphology are termed monocytic MDSCs (M-MDSCs). However, the exact role of MDSC in autoimmune diseases pathogenesis is unclear, and there are controversies regarding their immunosuppressive functions in this context. Exosomes (exo) are 30-120-nm phospholipid bilayer-enclosed vesicles that are either released from the parental cell into the extracellular space when multivesicular bodies fuse with the plasma membrane or released directly from the plasma membrane. We found that G-MDSC exo could attenuate DSS-induced colitis and collagen induced arthritis (CIA). Subsequently, we confirmed that G-MDSC exo suppress $CD4^{+}$ T cell proliferation and the delayed-type hypersensitivity (DTH) response, and these roles were partially related to arginase (Arg)-1 activity. Moreover, G-MDSC exo could promote Treg cells expansion in vitro. Our findings provide a potential immunotherapy for IBD and other autoimmune diseases.

Oral Presentation 1

Soluble guanylyl cyclase and coronary vasoactivity

Gao Yuansheng
Peking University

Yuansheng Gao received his PhD in Physiology (1990; advisor: Paul M. Vanhoutte) in Mayo Graduate School, Minnesota, USA and postdoctoral training in Professor Vanhoutte's lab at the Baylor College of Medicine, Texas, USA (1990-1992). He was an Adjunct Assistant/Associate Professor at University of California, Los Angeles, USA from 1992 to 2002. Since 2002 he serves as Professor of Pathophysiology in Peking University Health Science Center, Beijing, China. He has been an Honorary Professor of Department of Pharmacology and Pharmacy in The University of Hong Kong, China since 2014. He served as the council member of Asian Society for Vascular Biology since 2005 and the review editor for the journal "Frontiers in Vascular Physiology" since 2011. He works on the signalling transduction of pulmonary and coronary vasculature for near 30 years and has published over 90 original research and review articles in this field. Yuansheng Gao is a recipient of the 2010/2011 Dr Cheng Yu Tung Fellowships (Visiting Professor). Promoted by the Fellowships, a collaborative research on the role of soluble guanylyl cyclase in coronary vasoactivity has been undertaken since 2011 between Dr Gao's lab at Peking University and Drs PM Vanhoutte/SWS Leung's lab at the University of Hong Kong. The collaboration has revealed a new signaling molecule cIMP generated by soluble guanylyl cyclase may be critically involved in hypoxia-induced vasoconstriction and suggests that the inhibition of cIMP may serve as a new therapeutic way to combat coronary vasospasm.

Soluble guanylyl cyclase (sGC) is primary enzymes mediating vasodilatation induced by endothelium-derived nitric oxide (NO) and nitrovasodilators. Under basal conditions and various stimuli the activation of sGC by NO leads to increased production of cGMP, stimulation of cGMP-dependent protein kinase (PKG), and vasodilatation. Under hypoxia NO causes enhanced vasoconstriction of coronary arteries rather than vasodilatation. This phenomenon occurs only in vessels with intact endothelium and is sGC-dependent but cGMP-independent, indicating the involvement of an unknown sGC product. Using a highly sensitive and specific HPLC tandem mass spectrometry (HPLC-MS/MS) method, we found that the level of inosine 3', 5'-cyclic monophosphate (cIMP) but not that of cGMP was markedly elevated by hypoxia in coronary arteries with endothelium or those without endothelium treated with NO. The increase in cIMP was sensitive to sGC inhibition and associated with augmented vasoconstriction. Inosine 5'-triphosphate (ITP), a processor for production of cIMP by sGC, was also augmented by hypoxia. In coronary arteries denuded of endothelium the absence of hypoxic augmentation of vasoconstriction was rescued by cIMP, coincident with an increased phosphorylation of MYPT1 at Thr853 in a manner sensitive to the inhibition of Rho kinase (ROCK). The elevation of cIMP at concentrations presumably occurring inside smooth muscle cells was found to directly activate ROCK. Cyclic GMP has long been considered as the sole signalling messenger generated by sGC. Our study suggest that cIMP synthesized by sGC can also act as a signalling molecule to mediate the hypoxic augmentation of vasoconstriction, in part via ROCK. Furthermore, these results implicate that the development of a cIMP inhibitor may offer a novel therapeutic way to treat coronary vasospasm.

Oral Presentation 2

Brain network dysfunction - a candidate predictive biomarker for outcome of first episode psychosis?

Zhang Jie
Shantou University

Dr Jie Zhang earned his Ph.D. in Medical Imaging in 2013 and his M.B.B.S. degree in 2004. He completed his resident training at Shantou University Mental Health Centre (SUMHC). He finished the China Scholarship sponsored Neuroscience Training Program at Department of Psychiatry, Yale University as well as the Dr Cheng Yu Tung Fellowships funded Clinical Research Fellow Program at Department of Psychiatry, The University of Hong Kong. He is currently an psychiatrist and Associate Director of Department of Science & Education at SUMHC. Dr Zhang's clinical research is concentrated largely on exploring the brain biomarkers for strategies of intervention and prevention associated with major mental illnesses, including schizophrenia, bipolar disorder, and major depressive disorder. Moreover, much of his basic research has focused on identifying the contributions of the amino acid neurotransmitter systems (GABA and Glutamate) to the neurobiology of behavioral disorders related with Early Life Adversity (ELA) and the potential mechanism of drug intervention. Specifically, he employed ELA rodent model to explore the effects of early life stress on cellular and molecular biology, and examined the molecular and behavioral effects of drug intervention strategies targeting these affected systems. In addition, he is interested in the research to evaluate the clinical efficacy of brain stimulation technologies applied for treatment of mental disorders.

Introduction: Since the chronic, recurrent and disabling course for schizophrenia (SCH), first episode of psychosis (FEP), considered as early stage SCZ, is classically viewed as a critical period for determining the outcome of the illness. Duration of untreated psychosis (DUP), one of the few potentially modifiable factors, is able to predict the short- and long-term outcomes of psychosis. The emerging evidence indicated resting-state functional connectivity (rs-fcMRI), reflecting the intrinsic fluctuations in neural activity, was impaired in the FEP, however, it is unclear whether the impairment in the functional connectivity is due to the effects of untreated psychosis. We systematically reviewed the literature on the association between the length of DUP and brain functional connectivity, determined with rs-fcMRI, in the FEP.

Methods: We searched five electronic databases and conducted forward and backward citation searching to identify relevant papers. Studies were included if they: (1) included FEP patients who were treatment naïve or minimally treated; and (2) had correlated measures of DUP with resting brain network/connectivity measures.

Results: We identified ten studies that met the inclusion criteria. Seven examined the correlation between DUP and brain functional connectivity. There was evidence of associations in brain network considered important in FEP; however, the findings were inconsistent across studies. The majority of included studies were not primarily designed to examine whether DUP is correlated with brain network, and there were a limitations in methodology and sample size within most studies included.

Conclusion: Current available evidence suggest that there is little evidence of an association between untreated psychosis and brain network dysfunction in FEP. Although the limitations in design and methodology were found within the studies, there are few outcome-oriented studies support the dysfunctional brain network mediate the relationship between longer DUP and worsened outcome for intervention. Future studies, specifically designed to examine relation between DUP and brain functional network in FEP are neccessary.

Oral Presentation 3

Neuronal activation in anterior cingulate cortex correlates with motion sickness

Zhang Fuxing
The Fourth Military Medical University, Xi'an

Zhang Fu-Xing, Ph D., Professor in Department of Human Anatomy, Histology and Embryology, The Air Force Military Medical University (the former "The Fourth Military Medical University"). Zhang Graduated from School of Life Sciences, ShaanXi Normal University in 1985, and got his PhD degree from The Fourth Military Medical University in 2000. From 2001 to 2002, supported by "Dr Cheng Yu Tung Fellowships" as a research fellow, Zhang Fu-Xing worked in Professor Chan Ying Shing's lab, Department of Physiology, The University of Hong Kong; and from 2006 to 2008, as a post doctoral researcher in Department of Physiology, University of Toronto. Zhang's research interests are brain mechanisms underpinning development of pain and motion sickness. Supported by grants from National Natural Science Foundation of China, twenty-plus papers were published and four patents authorized by State Patent Office in last five years.

The anterior cingulated cortex (ACC) is a functionally heterogeneous cortical region implicated in visceral and motor modulation, as well as affect and nociception; it also plays an important role in higher brain function such as cognition involving learning, memory, attention, error-detection and decision-making etc. We investigated the functional potentiality of ACC in motion sickness via a combination of behavioral, morphological and electrophysiological approaches. Experimental animals were divided into two main groups, control and ACC-lesioned groups, and subjected to double-axis rotation for 2 hours (implemented through a self-made motor-driven instrument) depending on the particular experimental scheme. Pica, the consumption of non-food substance like kaolin, was used as an indicator of motion sickness for rat. Following rotation, rats with electrolysis of ACC showed less severe motion sickness, as indicated by less amount of kaolin intake. Morphological experiments demonstrated that double-axis rotation excited ACC neurons and induced morphological plasticity of ACC pyramidal neurons, as shown by quantitative analysis of neurons immunostained for Fos protein and spines on apical dendrites of pyramidal neurons labeled through Golgi staining. In parallel, in vitro experiments using patch clamp showed that, following rotatory stimulation, ACC neurons fired more robustly and exhibited stronger excitatory neurotransmission, as indicated by firing more action potentials upon current injection, and higher frequency and larger amplitude of spontaneous excitatory postsynaptic currents of pyramidal neurons. All the data combined suggest that ACC is activated by the prescribed stimulating paradigm which, in the present case, mainly stimulated vestibular end organs and that ACC plays a facilitating role in motion sickness.

Oral Presentation 4

Laparoscopic surgery for choledochal cyst in children

Li Long
Capital Institute of Pediatrics

Professor Li is currently Professor of Pediatric Surgery at the Department of Pediatric Surgery, The Capital Institution of Pediatrics, Beijing, China. He graduated from the China Medical University in 1985 and completed his postgraduate pediatric surgical training and started his career as a full-time pediatric surgeon in Beijing Children's Hospital. In 1997 and 1999 he was supported by Dr Cheng Yu Tung Fellowships to train as Visiting Research and Clinical Fellow respectively in the Division of Paediatric Surgery, Department of Surgery, The University of Hong Kong. Since 2000, Professor Li and his team, cooperated with Professor PKH Tam and Dr KKY Wong, have developed a large pediatric laparoscopic surgery programme in China. He also established pediatric liver transplantation programme with the first successful pediatric liver transplantation in Beijing in November 2001 under the guidance of Professor ST Fan and Professor CM Lo. He has contributed to more than 320 articles, 2 books, 1 set of laparoscopic video and several book chapters to the pediatric surgery literatures. Professor Li has special interests in Pediatric hepatobiliary surgery and pediatric minimally invasive surgery and his team has undertaken more than 30,000 laparoscopic operations for children.

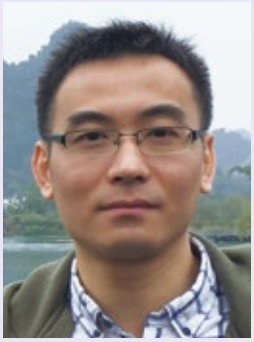
Laparoscopy enables surgeons to approach the surgical conditions from a new perspective. Laparoscopic surgery has revolutionized the treatment of choledochal cysts (CDC). Yet, this new technique requires objective evaluations. We have examined the controversies about the timing of surgery for antenatally diagnosis, simplified classification and laparoscopic distal cyst dissection and ligation, ductoplasty for hepatic duct stenosis, protein plugs clearance in common channel, Roux loop length, SILH in CDC children and redo ductoplasty for biliary stenosis. In the hands of experts, laparoscopic excision of the cyst and Roux-en-Y hepaticojejunostomy is safe and effective approach. We provide our opinions on these issues based on our experience and publications. We conclude that the main outcomes of the laparoscopic approach have improved over those of the open surgery. The better wound cosmesis and reductions of surgical trauma and postoperative complications are the advantages.

Oral Presentation 5

Wnt regulation of planar cell polarity in development and disease

Gao Bo
The University of Hong Kong

Dr Gao obtained his bachelor and doctoral degrees from the Shanghai Jiao Tong University in Shanghai, China, with three years of his PhD training at The University of Hong Kong partially supported by Dr Cheng Yu Tung Fellowships. He received his research training in the fields of human and mouse genetics. After completing a postdoctoral fellowship at U.S National Human Genome Research Institute, he worked as staff scientist at the National Institutes of Health (NIH). In 2015, Dr Gao joined The University of Hong Kong as tenure-track Assistant Professor. He is interested in studying cell signaling in development and disease, with focus on elucidating the molecular mechanisms of Wnt/Planar Cell Polarity signaling and a variety of human skeletal and connective tissues disorders.



During the morphogenesis of multicellular organisms, directional information has to be provided in order to form functional tissues and organs with specific organization and morphology. Planar cell polarity (PCP) is an evolutionarily conserved essential mechanism that provides directional information to control and coordinate polarized cellular and tissue behavior during embryonic development. Disruption of PCP leads to severe morphological defects in vertebrates and its dysregulation results in a variety of human diseases such as neural tube defects and skeletal dysplasia. PCP is governed by a set of highly conserved core proteins that are asymmetrically localized at the cell surface throughout the polarized tissues. The uniform directionality of PCP is established by global cues, such as Wg/Wnt signaling gradients that break the original symmetrical localization of core PCP proteins including Vang/Vangl and Fz/Fzd. However, the exact mechanism remains elusive. My studies by employing genetic, biochemical and cell biological strategies are revealing how Wnt signaling regulates PCP and their functions in development and diseases.

Poster Presentations

Professor An Yong
Children's Hospital of Chongqing Medical University
The study of HGF/c-met in promoting endothelial progenitor cell migration in the treatment of pulmonary hypertension

Professor Bai Zhantao
Yanan University
Dopamine D2-Cx43 signal pathways in mirror image pain

Dr Cai Leyi
The Second Affiliated Hospital and Yuying Children's Hospital of Wenzhou Medical University
Application of 3D printing technology on the treatment of Pilon fracture and its effect on doctor-patient communication

Professor Cai Yu
The First Hospital of Peking University
The association between corneal biomechanical parameters and visual field progression in patients with normal tension glaucomaa

Dr Chu Dake
The First Affiliated Hospital of Xi'an Jiaotong University
Positive feedback activation of notch signal by obesity enhances colorectal tumorigenicity

Professor Fang Yongjun
Nanjing Children Hospital
FOXC1H446HG gene mutation in bone marrow infiltrating T cells induced changes of Treg in pathogenesis of childhood ALL

Dr Gu Yunjuan
Affiliated Hospital of Nantong University
Dapagliflozin and empagliflozin ameliorate hepatic dysfunction among Chinese subjects with diabetes in part through glycaemic improvement

Dr Han Tongyan
The Third Hospital of Peking University
Vascular factors associated with bronchopulmonary dysplasia in preterm infants

Dr Hao Wei
Yantai Yuhuangding Hospital
Prospective cohort study of closed reduction of trochanteric fractures via a novel intraoperative femoral fracture reduction device: Early clinical results

Professor He Xiaosheng
Xijing Hospital of Airforce Military Medical University
Surgical strategies for CPA meningiomas by retrosigmoid approach: A summary of clinical experiences

Professor Jie Qiang
Xi'an Jiao-Tong University
Surgical treatment of distrophic spinal curves caused by neurofibromatosis Type 1: A retrospective study

Professor Jiang Chaoqiang

Guangzhou No.12 Hospital

Scientific research has no borders and exploration will never end

Dr Li Chao

Chinese Academy of Medicine Sciences & Peking Union Medical College

Clinical and pathological analysis of patient presenting renal lesion and monoclonal gammopathy: a retrospective study of 64 patients with biopsy-proven renal diseases

Dr Liu Yingxian

Chinese Academy of Medical Sciences and Peking Union Medical College

Strategies and prognosis of inflammatory myopathy related cardiomyopathy

Professor Peng Hanwei

Shantou University Medical College

Pectoralis major myocutaneous flap for head and neck defects in the era of free flap: Technique modifications and indications

Dr Qin Xuzhen

Peking Union Medical College Hospital

The incidence of vancomycin-induced nephrotoxicity in Hong Kong Chinese

Professor Qiu Weihua

Shanghai Jiao Tong University School of Medicine

Intraoperative carbon nanoparticles imaging in secondary total thyroidectomy for recurrent thyroid nodules: results of a 7-criterion case-match study

Dr Shi Jinghua

Peking Union Medical College Hospital

The growth direction of endometrium in adenomyosis

Dr Shi Wenyu

Affiliated Hospital of Nantong University

LAMP1 overexpression predicts poor prognosis in diffuse large B cell lymphoma

Dr Song Hongping

Xijing Hospital of Air Force Military Medical University

Diagnosis accuracy of ABUS with and without computer-aided detection

Professor Tang Shuai

Peking Union Medical College Hospital

Regional anaesthesia in China: Role of RAC and PUMCH

Professor Tian Ye

The Second Affiliated Hospital of Soochow University

The response of neuron within dentate gyrus during the early stage of radiation-induced cognitive impairmen

Professor Wu Donghai

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Harmine, a natural product capable of in situ adipocyte cell fate reprogramming

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The molecular effects of trastuzumab and fulvestrant on human HR+/HER2+ breast cancer cell lines and mouse tumor xenografts

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Propensity score-matched comparison of robotic, laparoscopic and open distal pancreatectomy

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NLRP6 targeting suppresses gastric tumorigenesis via P14ARF–Mdm2–P53-dependent cellular senescence

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Hybrid technique in the treatment of congenital early onset scoliosis

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Safety of intraoperative chemotherapy with 5-FU for colorectal cancer patients receiving curative resection: A randomized, multicenter, prospective, phase III IOCCRC trial (IOCCRC)

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Current status in the management of biliary atresia in the Mainland China

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RAB37 promotes autophagosome formation via regulating ATG5-12-16 complex assembly

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Function of cancer-associated noncoding RNA