Summary Report
3rd CUHK International Symposium on Stem Cell Biology and Regenerative Medicine

The 3rd CUHK International Symposium on Stem Cell Biology and Regenerative Medicine has been successfully held at The Chinese University of Hong Kong, Postgraduate Education Centre, Prince of Wales Hospital on 11-11 November 2013. The symposium was co-sponsored by Department of Orthopaedics and Traumatology, CUHK; Stem Cells and Regeneration Theme, School of Biomedical Sciences, CUHK; The Stem Cells and Regeneration Center, CUHK; SMART program, Institute of Innovative Medicine, CUHK; Key Laboratory for Regenerative Medicine (Jinan University-CUHK), Ministry of Education, PR China. There were 41 invited speakers from USA: Stanford University; University of Pittsburg; Brown University Medical School; Johns Hopkins University; University of Alabama at Birmingham; Europe: Karolinska Institute, Sweden; AO Research Institute Davos, Switzerland and Utrecht University, The Netherlands; National University of Singapore, Singapore; University of Western Australia, Australia; the mainland institutions include: Zhejiang University; Shanghai Jiaotong University; Jilin University; Jinan University; Shenzhen University Medical School and Guangdong Medical College; Hong Kong local universities include: University of Hong Kong; Hong Kong University of Science and Technology and Hong Kong Baptist University. There were 16 colleagues from School of Biomedical Sciences; School of Mechanical Engineering; Department of Orthopaedics and Traumatology; Department of O&B as guest speakers. There were over 300 people attended the meeting.

The first day of the meeting started with state of the art lectures on iPS technology given by Prof. Tim Towns from University of Alabama; followed by thought provoking talks given by Prof. Xu Cao of John Hopkins University and Prof. Gang Li of ORT-CUHK. The opening ceremony was attended by Prof. Fanny Cheung, PVC, CUHK; Prof. Francis Chan, the Dean of Faculty of Medicine, CUHK; Prof. Chan Wai-Yee, Director of School of Biomedical Sciences; Prof. Kai-Ming

Chan, Director of SMART Program, IIM-CUHK; Prof. Jack Cheng, Chairman of ORT-CUHK, and Prof. Cai Dong-Qing, Co-Director of Key Laboratory for Regenerative Medicine (Jinan University-CUHK), Ministry of Education, all of them addressed the audiences warmly at the opening ceremony. All the participants agree to join the Musculoskeletal Regeneration Network led by CUHK.

Following the ceremony, we had our keynote speaker Prof. Rocky Tuan to address the audience with the title "New frontiers of skeletal regeneration: stem cells, extracellular matrix and biomaterial scaffolds", and the talk was well received with attendance of over 300 people.

The 2nd day of the symposium continued in the Postgraduate Education Centre, Prince of Wales Hospital. The program has two parallel sections on two main themes: musculoskeletal regeneration and general technological advancement of stem cell biology. Over 200 people attended with more than 40 invited speakers from USA, Australia, Sweden, Singapore, mainland China, UST, HKU, Baptist University and CUHK gave stimulating talks. The highlight of the 2nd day was the free paper section, where 8 free papers mostly from CUHK postgraduate students, after intense competition, the 6 judges have selected two first prize papers to Ms. Liu Yang and Ms. Y Shu, from Department of Orthopaedics and Traumatology and School of Biomedical Sciences, CUHK, respectively.

The symposium was successfully concluded after 2 days intense scientific discussions and exchanges, and the organizing committee has received overwhelming good feedbacks from many participants and faculty speakers. This symposium has now become a regional icon for stem cell biology and regenerative medicine in Hong Kong and China. The 4th CUHK International Symposium on Stem Cell Biology and Regenerative Medicine will be held on 17-18 November 2014, in Hong Kong, with guest of speaker Prof. Shinya Yamanaka, the 2012 Nobel Prize winner in Physiology or Medicine.

Prof. Li Gang
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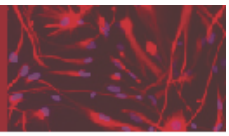
Attachments: Meeting program at a glance

Program Rundown



Day 1 November 11, 2013 (Monday)

	Time	Key Event	Speaker
Venue: PEC Shaw Auditorium			
Session 1: Stem Cell Biology in Musculoskeletal Diseases and Regeneration Moderators: Prof. Tim Townes Prof. Kenneth Lee	08:30-08:50	Human Globin Gene Regulation and iPSC Therapy for Sickle Cell Disease	**Prof. Tim Townes, PhD** *University of Alabama, USA*
	08:50-09:10	Stem cells for inter-vertebral disc regeneration: Which Cells ? At what time? How to deliver?	**Prof. Mauro Alini** *AO Research Institute Davos, Switzerland*
	09:10-09:30	Mesenchymal stem cells in bone remodeling and osteoarthritis	**Prof. Xu Cao, PhD** *John Hopkins University, USA*
	09:30-09:50	Circulating mesenchymal stem cells and their clinical implications	**Prof. Gang Li, MD, PhD** *The Chinese University Hong Kong*
	09:50-10:10	Panel Discussion	
	10:10-10:30	Tea Break and Exhibitions	
Session 2: Musculoskeletal Regeneration Research Network (MRN) Moderators: Prof. KM Chan Prof. Jack Cheng	10:30-12:00	Introduction of SMART Program CUHK	**Prof. KM Chan** **Prof. Hsiao-chang Chan** **Prof. Cynthia Xiao-hua Jiang** **Prof. Kingston King-lun Mak** **Prof. Arthur Fuk-Tat Mak** **Prof. Liming Bian** **Prof. Ling Qin** **Prof. Gang Li** **Prof. Patrick Shu-hang Yung** **Prof. James Francis Griffiths** **Prof. Kevin Ki Wai Ho** **Prof. Ye Chun Ruan**
		Discussion on the goals of MRN	**Prof. Li Felländer Tsai** *Karolinska Institute, Sweden* **Prof. Qian Chen** *Brown University, USA* **Prof. William Maloney** *Stanford University, USA* **Prof. Wouter Dhert** *Utrecht University, Holland* **Prof. Tim Townes** *University of Alabama, USA* **Prof. Tiagting Tang** *Shanghai Jiaotong University, China* **Prof. Guang-Qian Zhou** *Shenzhen University Medical School, China* **Prof. Hongwei Ouyang** *Zhejiang University, China* **Prof. Geoff Richards** *AO Foundation, Switzerland*
Session 3: Conference Ceremony Moderator: Prof. KM Chan	12:00-12:30	Opening ceremony Inauguration of MRN Group Photo	**Prof. Fanny Cheung** *Pro-Vice Chancellor & Vice-President, CUHK* **Prof. Francis Chan** *Dean of Medical Faculty* **Prof. Wai-Yee Chan** *Director SBS* **Prof. Jack Cheng** *Chairman ORT* **Prof. KM Chan** *Director, SMART-IIM*
Session 4: Keynote Speech 1 Moderator: Prof. KM Chan	12:30-13:00	New Frontiers of Skeletal Regeneration: Stem Cells, Extracellular Matrix, and Biomaterial Scaffolds	**Prof. Rocky Tuan** *University of Pittsburg, USA*
	13:00-14:00	Lunch Break and Exhibitions Lunch Time Seminar	
Session 5: New Technologies and Advancements Moderators: Prof. Stuart Goodman Prof. Arthur Mak	14:00-14:20	Next-generation sequencing as a molecular diagnostic tool	**Prof. Rossa Chiu** *The Chinese University of Hong Kong*
	14:20-14:40	A key network approach reveals new insights in bone cell development and osteoporosis	**Prof. Guang-Qian Zhou** *Shenzhen University, China*
	14:40-15:00	Extracellular matrix niches for stem cells	**Prof. Barbara Chan** *Hong Kong University*
	15:00-15:20	Panel Discussion	
Session 6: Keynote Speech 2 Moderator: Prof. Gang Li	15:20-15:50	Translational challenges in musculoskeletal tissue engineering	**Prof. Wouter Dhert** *Utrecht University, Netherland*
	15:50-16:00	Panel Discussion	
	16:00-16:20	Tea Break and Exhibitions	
Session 7: Clinical Perspectives of Regenerative Medicine: The Reality and Challenges Moderators: Prof. Jack Cheng Prof. KM Chan	16:20-16:40	Towards Intraoperative repair	**Prof. Geoff Richards** *AO Foundation Research Institute, Switzerland*
	16:40-17:00	Developing an "Enhanced" Bone Tissue Engineering Therapeutic Strategy for Large Bone Defect Treatment under Diseased Condition - A pilot study in diabetic rabbit model	**Prof. Zhi-Yong Zhang** *Shanghai Jiaotong University, China*
	17:00-17:20	Clinical applications of MSC's and NSC's in neuro-degenerative disorders	**Prof. William J. Maloney** *Stanford University, USA*
	17:20-17:40	Inflammation and stem cell homing in musculoskeletal regeneration	**Prof. Stuart Goodman** *Stanford University, USA*
	17:40-18:00	Autologous Human Mesenchymal Stem Cells for Cartilage Repair: From Bench to Bedside	**Prof. James Hui** *National University of Singapore, Singapore*
	18:00-18:20	Panel discussion	
	18:20	Meeting adjourns and bus transport to dinner venue at Shatin centre for all invited guests and speakers	
	19:00	Conference Welcome dinner for all invited guests and speakers	

Day 2 November 12, 2013 (Tueseday)

Time\Venue	PEC Kai Chong Tong	PEC Seminar Room 1-3
	Session 8: Ligament, Tendon and Muscle Highlights Symposium Moderators: Prof. Christer Rolf, Prof. KM Chan	Session 9: Tissue Specific Functions of Stem Cells Moderators: Prof. Li-Ping Li, Prof. Wan Chao
08:30-08:50	**Prof. Li Felländer Tsai** *Karolinska Institute, Sweden* The association between Cruciate Ligament injury and development of post-traumatic osteoarthritis, a population based nationwide study in Sweden, 1987-2009	**Prof. Yi-ping Li** *Univ. Alabama, USA* A Stem Cell–Based Approach to Cartilage Repair in mouse Osteoarthritis disease Model
08:50-09:10	**Prof. Hongwei Ouyang** *ZheJiang University, China* Identification of cartilage progenitor cells and translational research on cartilage tissue engineering	**Prof. Lei Wei** *Brown University, USA* Blocking SDF-1/CXCR4 pathway attenuates OA development
09:10-09:30	**Prof. Christer Rolf** *Karolinska Institute, Sweden* The role of infection and genetic predisposition of failed healing in chronic tendon ailments	**Prof. Jinyu Liu** *Jilin University, China* Functional Arterial grafts generated from human hair follicle stem cells and de-cellular umbilical cord arteries
09:30-09:50	**Dr. Bruma Fu** *The Chinese University of Hong Kong* Effect of post-operative GHK-Cu intra-articular injections on graft healing in ACL reconstruction	**Prof. Dong-Qing Cai** *Jinan University, China* Stem Cell Therapy for Infarcted Myocardium—Stem Cells or other Cells
09:50-10:10	**Prof. Hua-Ting Wang** *The Chinese University of Hong Kong* Identification and Characterization of Long non-coding RNA in Skeletal Myogenesis	**Prof. Kenneth Lee** *The Chinese University of Hong Kong* Role of BRE Gene in Stem Cell and Development
10:00-10:20	Panel Discussion	
10:20-10:40	Tea Break and Exhibitions	
	Session 10: Cartilage Regeneration and Osteoarthritis Moderators: Prof. LK Hung, Prof. Qian Chen	Session 11: Musculoskeletal Development and Cell Biology Moderators: Prof. Zhenguo Wu, Prof. Wouter Dhert
10:40-10:55	**Prof. Qian Chen** *Brown University, USA* Molecular regulation of opposing anabolic and catabolic signaling pathways in mesenchymal chondroprogenitors	**Prof. Chao Wan** *The Chinese University of Hong Kong* Hypoxia promotes expansion of mesenchymal stem cells for skeletal tissue regeneration
10:55-11:10	**Prof. Li-Ming Bian** *The Chinese University of Hong Kong* Recreating microenvironment cues via biomimetic biomaterials to guide mesenchymal stem cell chondrogenesis for cartilage regeneration	**Prof. Jiake Xu** *University of Western Australia* Angiogenic factors in bone microenvironment: potential therapeutic targets for bone repair
11:10-11:25	**Prof. Kingston Mak** *The Chinese University of Hong Kong* Functional roles of Wnt16b in endochondral bone development	**Prof. Ge Zhang** *Baptist University, Hong Kong* miR-214 targets ATF4 to inhibit bone formation
11:25-11:40	**Prof. Zhou Guangdong** *Shanghai Jiaotong University, China* In vitro cartilage regeneration and its application in repairing cartilage defects	**Prof. Feng Bo** *The Chinese University of Hong Kong* Life-dependent primitive neural stem cells derived from mouse ES cells represent a reversible stage of neural commitment
11:40-12:00	Panel Discussion	
12:00-13:00	Lunch Break and Exhibitions (Buffet lunch for all in the PEC foyer area)	
	Session 12: Stem cells de-differentiation in cancer development and treatment Moderators: Prof. Tingting Tang, Prof. Cynthia Xiaohua Jiang	Session 13: Novel Technologies and Biomaterials in Regeneration Moderator: Prof. Yi-ping Li, Prof. Arthur Mak
13:00-13:15	**Prof. Tingting Tang** *Shanghai Jiaotong Univ., China* Mesenchymal stem cells contribute to the growth and metastasis of osteosarcoma	**Prof. Arthur Mak** *The Chinese University of Hong Kong* Oxidative Stress and Cell Mechanics
13:15-13:30	**Prof. Cynthia Jiang** *The Chinese University of Hong Kong* Reprogramming MSCs for cancer targeting	**Prof. Yi-Kuen Lee** *Hong Kong University of Science and Technology* Development of Combinatory Drugs from Traditional Chinese Medicine by Using Closed-loop Feedback Control
13:30-13:45	**Dr. Wayne Lee** *The Chinese University of Hong Kong* Combination cancer therapy: the use of TK-MSCs and Doxorubicin	**Prof. Ling Qin** *The Chinese University of Hong Kong* Magnesium as Bioactive and Biocorrosive Orthopaedic Implants
13:45-14:00	**Prof. Shi Qin** *Suzhou University, School of Medicine, China* Improved osteogenesis of de-differentiation mesenchymal stem cells	**Prof. Min Wang** *The University of Hong Kong* Novel Multifunctional Scaffolds for Tissue Regeneration
14:00-14:20	Panel Discussion	**Prof. Fan Yang** *Stanford University, USA* Novel Aspects of Biomaterials in Bone Regeneration
14:20-14:40	Coffee Break	

Day 2 November 12, 2013 (Tueseday)

	Time	Key Event	Speaker
Venue: PEC Shaw Auditorium			
Session 14: Free Paper and Award Paper Section 7 minutes presentation 3 minutes questions Judger and commentators: Prof. Stuart Goodman Prof. Yi-Ping Li Prof. Kingston Mak Prof. Qin Ling	14:40-14:50	Epigenetic regulation of Nanog and Oct4 contributes to enhanced osteogenesis in de-differentiated MSCs	XU Liangliang The Chinese University of Hong Kong
	14:50-15:00	The role of Smad7 in bone formation, mBM-MSCs differentiation and osteoclastogenesis	LI Nan The Chinese University of Hong Kong
	15:00-15:10	Chondrogenic Dedifferentiation Reprogrammed Human Fetal Mesenchymal Stem Cells: Better for Cartilage Regeneration?	LIN Sien The Chinese University of Hong Kong
	15:10-15:20	EPO/EPOR regulates the coupling of angiogenesis and osteogenesis during skeletal regeneration	WAN Lin The Chinese University of Hong Kong
	15:20-15:30	Mst1 and Mst2 double knockout ES cells: an important model to study Hippo pathway involved in neurogenesis, cardiogenesis and teratoma formation	LI Peng The Chinese University of Hong Kong
	15:30-15:40	Examine the Role of CFTR on Tenogenic Differentiation	LIU Yang The Chinese University of Hong Kong
	15:40-15:50	The interrelationship between HIF1α pathway and estrogen receptor (ER) signaling in osteoporosis	SHU Y The Chinese University of Hong Kong
	15:50-16:00	Dedifferentiation-Reprogrammed Mesenchymal Stem Cells with Enhanced Tumor Tropism	CHEN Rui The Chinese University of Hong Kong
	16:00-16:10	Comments and questions by the judge panel members	
	16:10-16:20	Free Paper Awards Ceremony	Prof. Kingston Mak Prof. Bian Liming
	16:20-16:30	Conclusion remarks	Prof. KM Chan Prof. Gang Li
	16:30	Meeting adjourns and free evening time	