

# **WACBE**

## **World Congress on Bioengineering 2017**

**30 July - 2 August 2017**  
**The Hong Kong Polytechnic University, Hung Hom, Hong Kong**

**❖ Tentative Schedule ❖**

## Program Structures

### Track 1: Biomaterials, Tissue Engineering and Regenerative Medicine

- T1.1 Regenerative Medicine I (31/07, Oral Session I, Room: V302)
- T1.2 Regenerative Medicine II (31/07, Oral Session II, Room: V302)
- T1.3 Regenerative Medicine III (01/08, Oral Session IV, Room: V302)
- T1.4 Biomaterials (01/08, Oral Session V, Room V302)
- T1.5 Tissue Engineering I (02/08, Oral Session VIII, Room: V302)
- T1.6 Tissue Engineering II (02/08, Oral Session X, Room V303)

### Track 2: Biomedical Imaging, Signal Processing and Health Informatics

- T2.1 Ultrasound Technology I (31/07, Oral Session I, Room V303)
- T2.2 Ultrasound Technology II (31/07, Oral Session II, Room V303)
- T2.3 Medical Imaging Application (31/07, Oral Session III, Room V303)
- T2.4 Biosignal Processing and Health Informatics (01/08, Oral Session V, Room V303)

### Track 3: Biomechanics, Sports Medicine and Rehabilitation

- T3.1 Bone Biomechanics (31/07, Oral Session I, Room V322)
- T3.2 Vascular Bioengineering I (31/07, Oral Session I, Room V321)
- T3.3 Cell and Tissue Bioengineering I (31/07, Oral Session II, Room V322)
- T3.4 Biomechanics of Head and Dentistry (31/07, Oral Session III, Room V322)
- T3.5 Biomechanics of Lower Limb I (01/08, Oral Session IV, Room V322)
- T3.6 Vascular Bioengineering II (01/08, Oral Session IV, Room V315)
- T3.7 Biomechanics of Trunk and Upper Limb (01/08, Oral Session V, Room V322)
- T3.8 Vascular Bioengineering III (01/08, Oral Session VI, Room V322)
- T3.9 Biomechanics of Lower Limb II (01/08, Oral Session VII, Room V322)
- T3.10 Cell and Tissue Bioengineering II (02/08, Oral Session VIII, Room V303)
- T3.11 Biomechanics of Lower Limb III (02/08, Oral Session VIII, Room V322)
- T3.12 Biomechanics of Spinal Surgery (02/08, Oral Session X, Room V322)

### Track 4: Biosensors, Bionanotechnology and Medical Devices

- T4.1 Medical Devices (31/07, Oral Session II, Room V321)
- T4.2 Biosensors and Bionanotechnology (31/07, Oral Session III, Room V321)

### Track 5: Cellular, Genomic and Biomolecular Engineering

- T5.1 Cellular Bioengineering I (01/08, Oral Session IV, Room V321)
- T5.2 Molecular Bioengineering I (01/08, Oral Session V, Room V321)
- T5.3 Molecular Bioengineering II (01/08, Oral Session VI, Room V321)
- T5.4 Cellular Bioengineering II (02/08, Oral Session X, Room V315)

### Special Symposium 1:

- SP1.1 Advanced Sensors & Measurement Techniques I (31/07, Session III, Rm: V302)
- SP1.2 Advanced Sensors & Measurement Techniques II (02/08, Session IX, Rm: V302)

### Special Symposium 2:

- SP2.1 Foot-ankle Bioengineering (01/08, Session VI, Room: V303)

### Special Symposium 3:

- SP3.1 Light-sound Synergy and Its Applications in Biomedicine I (01/08, Oral Session VI, Rm: V302)
- SP3.2 Light-sound Synergy and Its Applications in Biomedicine II (01/08, Oral Session VII, Rm: V303)

### Special Symposium 4:

- SP4.1 Neural Engineering for Rehabilitation I (01/08, Oral Session VII, Room: V302)
- SP4.2 Neural Engineering for Rehabilitation II (02/08, Oral Session IX, Room V322)

### Special Symposium 5:

- SP5.1 Rehabilitation Engineering and Elderly Care I(01/08, Session VII, Room: V321)
- SP5.2 Rehabilitation Engineering and Elderly Care II (02/08, Session IX, Room: V315)

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Program Schedule

	30 Jul 2017 (Sun)	31 Jul 2017 (Mon)	01 Aug 2017 (Tue)	02 Aug 2017 (Wed)
08:00-08:30		<b>Registration</b>		
08:30-09:15		<b>Opening Ceremony – V322</b>	<b>Plenary Session III</b> (0830-0930) - V322 Prof. Kirk Shung <i>Applications of Ultrahigh Frequency Ultrasound to Cellular Engineering</i>	<b>Plenary Session V</b> (0830-0930) – V322 Prof. Chwee Teck Lim <i>Cell Mechanics Approaches for Disease Diagnosis and Therapy</i>
09:15-09:30		<b>Plenary Session I</b> (0915-1030) – V322 Savio Woo Distinguished Lecture Prof. Zhi-Pei Liang <i>Ultrahigh-Resolution MRSI: A Marriage of Quantum Mechanics with Machine Learning to Advance Healthcare</i>	Prof. Yubo Fan <i>Effect of Stress on Degradation Process of Biodegradable Materials</i>	Prof. Ming Zhang <i>Computational Biomechanics of Foot and Ankle</i>
09:30-10:30		Prof. Savio L. -Y. Woo <i>Potential of Magnesium and Its Alloys for Orthopaedic Implants: Here Today and Gone When You Wish</i>	Oral Session IV (60 min) T1.3 V302 T3.5 V322 T3.6 V315 T5.1 V321 C4 V312	Oral Session VIII (60 min) T1.5 V302 T3.10 V303 T3.11 V322 C8 V312
10:30-11:00		Tea Break		
11:00-12:30	Oral Session I (90 min) T1.1 V302 T2.1 V303 T3.1 V322 T3.2 V321 C1 V312	Oral Session V (90 min) T1.4 V302 T2.4 V303 T3.7 V322 T5.2 V321 C5 V312	Oral Session IX (90 min) SP1.2 V302 SP4.2 V322 SP5.2 V315	
12:30-13:45	<b>Pre-conference Registration</b>	WACBE Member Assembly V322		
13:45-14:15		<b>Plenary Session II</b> (1345-1415) – V322 Prof. Guang-Zhong Yang <i>Bio-inspired Continuum Robots for Surgery</i>	<b>Plenary Session IV</b> (1345-1415) – V322 Dr. Zong-Ming Li <i>A Bioengineering Shift of a Century Old Paradigm for Median Nerve Decompression</i>	Oral Session X (60 min) T3.12 V322 T1.6 V303 T5.4 V315
14:15-14:45		Oral Session II (90 min) T1.2 V302 T2.2 V303 T3.3 V322 T4.1 V321 C2 V312	Oral Session VI (90 min) SP3.1 V302 SP2.1 V303 T3.8 V322 T5.3 V321 C6 V312	<b>Plenary Session VI</b> (1515-1545) – V322 Prof. Cheng-Kung Cheng <i>Translational Research for Biomechanics – From Clinical Observations to Clinical Solutions</i>
14:45-15:15		Tea Break		
15:15-15:45		Poster Session I 1600-1630 (30 min) – Core V Podium		Poster Session II 1600-1630 (30 min) – Core V Podium
15:45-16:00		Closing Ceremony 1545-1615 (30 min) – V322		
16:00-16:30		Oral Session III (90 min) SP1.1 V302 T2.3 V303 T3.4 V322 T4.2 V321 C3 V312	Oral Session VII (90 min) SP4.1 V302 SP3.2 V303 T3.9 V322 SP5.1 V321 C7 V312	
16:30-18:00		WACBE Council Meeting 16:00-18:30		
18:00-18:30		Welcome Reception		
18:30-19:30		Conference Banquet – Chinese Garden (南北小廚), 4/F, Communal Building (Near Core S)		
19:30-20:30				

## **Program Timetable**

### **Sunday 30 July 2017**

- 12:30 -18:30 Pre-Conference Registration (Core V Podium, Jockey Club Innovation Tower)  
16:00-18:30 WACBE Council Meeting (V322)  
18:30-19:30 Welcome Reception (Core V Podium, Jockey Club Innovation Tower)

### **Monday 31 July 2017**

- 08:00-08:30 Registration  
08:30-08:45  
08:45-09:15 Opening Ceremony (Rm: V322)  
09:15-10:00 Plenary Session I (Rm: V322)  
*Savio-Woo Distinguished Lecture*  
Speaker: Prof. Zhi-Pei Liang  
10:00-10:30 Speaker: Prof. Savio L. -Y. Woo  
10:30-11:00 ~Break~  
11:00-12:30 Oral Session I  
12:30-13:45 Lunch / WACBE Member Assembly  
13:45-14:15 Plenary Session II (Rm: V322)  
Speaker: Prof. Guang-Zhong Yang  
14:15-15:45 Oral Session II  
15:45-16:00 ~Break~  
16:00-16:30 Poster Session I (Core V Podium)  
16:30-18:00 Oral Session III

### **Tuesday 01 August 2017**

- 08:00-08:30 Registration  
08:00-09:00 Plenary Session III (Rm: V322)  
Speaker: Prof. Kirk Shung  
09:00-09:30 Speaker: Prof. Yubo Fan  
09:30-10:30 Oral Session IV  
10:30-11:00 ~Break~  
11:00-12:30 Oral Session V  
12:30-13:45 Lunch

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13:45-14:15	Plenary Session IV (Rm: V322) Speaker: Dr. Zong-Ming Li
14:15-15:45	Oral Session VI
15:45-16:00	~Break~
16:00-16:30	Poster Session II (Core V Podium)
16:30-18:00	Oral Session VII
18:00-18:30	
18:30-20:30	Conference Banquet – Chinese Garden (南北小廚), 4/F, Communal Building (Near Core S)

**Wednesday 02 August 2017**

08:00-08:30	Registration
08:30-09:00	Plenary Session V (Rm: V322) Speaker: Prof. Chwee Teck Lim
09:00-09:30	Speaker: Ming Zhang
09:30-10:30	Oral Session VIII
10:30-11:00	~Break~
11:00-12:30	Oral Session IX
12:30-13:45	Lunch
13:45-14:45	Oral Session X
14:15-15:15	
15:15-15:45	Plenary Session VI (Rm:V322) Speaker: Prof. Cheng-Kung Cheng
15:45-16:15	Closing Ceremony

## Detailed Program Schedule

### Sunday 30 July 2017

- 12:30-18:30 Pre-Conference Registration (Core V Podium, Jockey Club Innovation Tower)  
16:30-18:30 WACBE Council Meeting (V322)  
18:30-19:30 Welcome Reception (Core V Podium, Jockey Club Innovation Tower)

### Monday 31 July 2017

- 8:45 **Opening Ceremony (V322)** Chair: Lei Sun  
*Opening Speech:*  
Fong-Chin Su, President, World Association for Chinese Biomedical Engineers  
Ming Zhang, Chairman of Organizing Committee, WACBE 2017
- 9:15 **Plenary Session I (V322)** Chair: Zongming Li, Dong Sun  
*Savio-Woo Distinguished Lecture*  
Prof. Zhi-Pei Liang, Ph.D.  
University of Illinois at Urbana-Champaign  
*Ultrahigh-Resolution MRSI: A Marriage of Quantum Mechanics with Machine Learning to Advance Healthcare*
- 10:00 Prof. Savio L. -Y. Woo, Ph.D., D.Sc., D.Eng.  
University of Pittsburgh  
*Potential of Magnesium and Its Alloys for Orthopaedic Implants: Here Today and Gone When You Wish*

~ Tea Break 10:30-11:00 ~

Oral Session I (90 min)

11:00 – 12:30, 31 July

Session	Regenerative medicine I		V302, 11:00 - 12:30, 31 July
T1.1	<b>Chair: James C. -H. Goh, Xin Zhao</b>		
11:00	T1.1-1	<b>Invited Speech</b> Regeneration technology for functional musculoskeletal tissue <i>Prof. James C. -H. Goh</i>	
11:20	T1.1-2	Osteochondral regeneration induced by TGF- $\beta$ loaded photo cross-linked hyaluronic acid hydrogel infiltrated in fused deposition manufactured composite scaffold <i>Yi-Ho Hsieh, Chih-Hsiang Fang, Ming-Fa Hsieh</i>	
11:35	T1.1-3	Mechanomodulation of immune cells phenotype to enhance bone tissue regeneration by scaffolds upon magnetization <i>Suisui Hao, Jie Meng, Yu Zhang, Jian Liu, Xin Nie, Fengxin Wu, Yanlian Yang, Chen Wang, Ning Gu, Haiyan Xu</i>	
11:50	T1.1-4	Photo-crosslinkable gelatin based scaffolds for skin regeneration <i>Yingchun Li, Xin Zhao</i>	
12:05	T1.1-5	Carbon fiber reinforced polyvinyl alcohol hydrogel for cardiac tissue regeneration <i>Fengxin Wu, Panpan Xu, Yaoyi Shen, Jian Liu, Jie Meng, Lianghua Xu, Haiyan Xu</i>	
Session	Ultrasound Technology I		V303, 11:00 - 12:30, 31 July
T2.1	<b>Chair: Lei Sun, Hairong Zheng</b>		
11:00	T2.1-1	<b>Invited Speech</b> Ultrasound-mediated non-invasive neuro-modulation <i>Hairong Zheng</i>	
11:20	T2.1-2	Determination of head soft tissue thickness using ultrasound indentation device	

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*Parth Bharat Shah, Yan Luximon, Yong-Ping Zheng*

11:35	T2.1-3	Subcellular localization of sonosensitizer for autophagy cooperated apoptosis in sonodynamic therapy <i>Lin Song, Xing Zhu, Zhihai Qiu, Lei Sun</i>
11:50	T2.1-4	Modulating CREB activity by ultrasound <i>Zhihai Qiu, Rui Zhang, Jingyao Wang, Jiejun Zhu, Quanxiang Xian, Yaoheng Yang, Jinghui Guo, Shashwati Kala, Hsiao Chang Chan, Lei Sun</i>
12:05	T2.1-5	A novel method to assemble NPs for application of nano medicine – A molecular dynamics study <i>Zijian Yao, Hao Zhang, Jian Lu, Xinrui Niu</i>

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<b>Session T3.1</b>	<b>Bone Biomechanics</b>	V322, 11:00 - 12:30, 31 July
	<b>Chair: He Gong, X. Edward Guo</b>	

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11:00	T3.1-1	<b>Invited Speech</b> Bone modelling and remodelling under mechanical loading: FLOW's law <i>X. Edward Guo</i>
11:20	T3.1-2	<b>Invited Speech</b> Macro-meso-micro-multilevel investigations on the morphological and mechanical variations regarding age-related bone degeneration <i>He Gong, Jiazi Gao, Rui Zhang, Juan Fang, Dong Zhu, Yubo Fan</i>
11:40	T3.1-3	<b>Invited Speech</b> Study on the mechanobiology of bone remodelling <i>Xi-Zheng Zhang</i>
12:10	T3.1-4	Numerical stimulation of bone remodelling in weightlessness <i>Dongmei Wang, Wenting Yang, Zhou-Jixin Lei, Chunhui Wang, Shanguang Chen</i>

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<b>Session T3.2</b>	<b>Vascular Bioengineering I</b>	V321, 11:00 - 12:30, 31 July
	<b>Chair: Fuyou Liang, Xiaoyan Deng</b>	

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16:30	T3.2-1	Determinant factors for arterial hemodynamics in hypertension: insights from a computational model study <i>Fuyou Liang, Debao Guan</i>
16:45	T3.2-2	Numerical stimulation of instantaneous wave-free ratio of stenosed coronary artery <i>Wenxin Wang, Xi Zhao, Boyan Mao, Bao Li, Youjun Liu, Jinsheng Xie</i>
17:00	T3.2-3	How blood flows in straighten areas of coronary arteries after stenting <i>Pengfei Liu, Xiaoyan Deng, Anqiang Sun</i>
17:15	T3.2-4	Influence of monocusp patch size on the hemodynamics for reconstructing right ventricular outflow tract <i>Wentao Feng, Jie Yao, Xianda Yang, Zhaowei Chu, Meng Guo, Lizhen Wang, Yubo Fan</i>
17:30	T3.2-5	Modelling and analysis of the cerebrospinal fluid flow <i>Xiaode Liu, Danmei Luo, Panpan Hu, Miao Yu, Qiguo Rong</i>

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<b>Session C1</b>	<b>Young Investigator Award Presentation I</b>	V312, 11:00 - 12:30, 31 July
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11:00	C1-1	Investigation of the stent-plaque-artery interaction during stenting <i>Lingling Wei, Qiang Chen, Zhiyong Li</i>
11:15	C1-2	A fluorescence resonance energy transfer (FRET) biosensor based on graphene quantum dot (GQD) and molybdenum disulphide (MoS <sub>2</sub> ) for the detection of epithelial cell adhesion molecule (EpCAM) <i>Jingyu Shi, Feng Tian, Jing Lyu, Mo Yang</i>
11:30	C1-3	Activatable nano-probe for molecular photoacoustic imaging of tumor protease activity <i>Cheng Liu, Shiyong Li, Junlong Chi, Yajie Xu, Yanjuan Gu, Lei Sun</i>
11:45	C1-4	VWF-A1-mediated expression of P-selectin on platelet under shear flow <i>JinHua Fang, JianHua Wu, Ying Fang</i>
12:00	C1-5	Functional classification of dendritic cells in mouse aorta: based on single cell technology <i>Qian Shi, Fei Zhuang, Na Li, Jiting Liu, Qingping Yao, Yingxin Qi, Zonglai Jiang</i>
12:15	C1-6	Does temperature change worsen or mitigate the effect of malaria infection on erythrocyte deformability

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~ Lunch / WACBE Member Assembly 12:30-13:45 ~

**13:45 Plenary Session II (V322)** Chair: Raymond K.Y. Tong  
Prof. Guang-Zhong Yang, Ph.D.  
Imperial College  
*Bio-inspired Continuum Robots for Surgery*

Oral Session II (90 - 95 min) 14:15 – 15:50, 31 Jul

Session	Regenerative medicine II		V302, 14:15 - 15:45, 31 July
<b>T1.2</b>	<b>Chair: Min Wang, Xiaoyan Yuan</b>		
14:15	T1.2-1	Advanced gene-delivering nanofibrous scaffolds for peripheral nerve tissue regeneration <i>Chaoyu Liu, Min Wang</i>	
14:30	T1.2-2	Effects of microRNA-126 in electrospun membranes for blood vessel regeneration <i>Fang Zhou, Xiaoling Jia, Yubo Fan, Xiaoyan Yuan</i>	
14:45	T1.2-3	Gradient stiffness hydrogels used in tissue engineering and regenerative medicine <i>Tingting Xia, Wanqian Liu, Li Yang</i>	
15:00	T1.2-4	Salvianolic acid B-incorporated PLGA/TCP composite scaffold promotes bone fusion by enhancing angiogenesis and osteogenesis in a rat spinal fusion model <i>Sien Lin, Yuxiao Lai, Liyi Zou, Tie Wu, Ling Qin, Gang Li, Wayne Yuk Wai Lee</i>	
15:15	T1.2-5	Advanced cell-laden nanofibrous scaffolds with multi-layered structures for human tissue regeneration <i>Yu Zhou, William W. Lu, Min Wang</i>	
Session	Ultrasound Technology II		V303, 14:15 - 15:45, 31 July
<b>T2.2</b>	<b>Chair: Weibo Qiu, Qing Wang</b>		
14:15	T2.2-1	Myocardial segmentation of ultrasound image <i>Xiangfen Song, Yinong Wang, Qing Wang</i>	
14:30	T2.2-2	Functional ultrasound for small animal brain imaging <i>Chenwenbao Hu, Jingjing Xia, Yi Yang, Rong Liu, Hairong Zheng, Weibao Qiu</i>	
14:45	T2.2-3	Comparison of shear wave, Rayleigh wave and Lamb wave theory of elasticity measurements using shear wave elastography <i>Hao Xu, Jian-Qiang Mo, Shi-Gao Chen, Kai-Nan An, Zong-Ping Luo</i>	
15:00	T2.2-4	Enabling ultrasound imaging for CFD simulation of avian embryonic heart <i>Sheldon Ho, Yue Yin Loh, Hadi Wiputra, ChoonHwai Yap</i>	
15:15	T2.2-5	Fluid dynamics of the human fetal right ventricle – an ultrasound image-based computational fluid dynamics study <i>Hadi Wiputra, Chang Quan Lai, Guat Ling Lim, Joel Jia Wei Heng, Lan Guo, Sanah Merchant Soomar, Hwa Liang Leo, Arijit Biwas, Citra NurfarahZaini Mattar, ChoonHwai Yap</i>	
Session	Cell and Tissue Bioengineering I		V322, 14:15 - 15:45, 31 July
<b>T3.3</b>	<b>Chair: Chunyi Wen, Jianping Fu</b>		
14:15	T3.3-1	<b>Invited Speech</b> Modeling human embryogenesis in a dish <i>Yue Shao, Kenichiro Taniguchi, Deborah L. Gumucio, Jianping Fu</i>	
14:25	T3.3-2	Mechanical sensing by heat shock factor is crucial for left-right axis establishment of zebrafish embryo <i>Liuyuan Guan, Hiroyuki Takeda, Jing Du</i>	

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14:50	T3.3-3	Involvement of caveolin-1 in low shear stress-induced breast cancer cell motility and adhesion: roles of FAK/Src and ROCK/p-MLC pathways <i>Niya Xiong, Shun Li, Hong Yang, Chunhui Wu, Yiyao Liu</i>
15:05	T3.3-4	Co-application of LMHFV and HMB supplement regards sarcopenia in SAMP8 mice <i>Jinyu Wang, Kwok-Sui Leung, Simon Kwoon-Ho Chow, Wing-Hoi Cheung</i>
15:20	T3.3-5	A pathway in vascular smooth muscle cell (VSMCs) glycocalyx mediates shear stress-induced contractile responses <i>Jiajia Liu, Anqiang Sun, Xiao Liu, Xiaoyan Deng, Hongyan Kang</i>
15:35	T3.3-6	Quantitative measurement of nitric oxide produced from endothelial cells under mechanical and biological regulating factors <i>Bin Su, Ping Zhao, Haoran Su, Zhengxing Li, Anqiang Sun, Hongyan Kang, Yubo Fan, Xiaoyan Deng, Xiao Liu</i>

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<b>Session T4.1</b>	<b>Medical Devices</b>	V321, 14:15 - 15:45, 31 July
<b>Chair: Yongping Zheng, Congo Tak-Shing Ching</b>		

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14:15	T4.1-1	<b>Invited Speech</b> Scolioscan®: a story from a research idea to product for radiation-free scoliosis assessment <i>Yongping Zheng</i>
11:35	T4.1-2	Acceleration of critical bone defect healing by guided low-intensity ultrasound in a rat tibial model <i>Yi-Xian Qin, Jingbo Liu, Dongye Zhang, Xiaofei Li</i>
14:50	T4.1-3	Noninvasive skin cancer detection <i>Congo Tak-Shing Ching, Chin-Sung Hsiao, Lin-Shien Fu, Tai-Ping Sun, Chih-Hsuan Liu</i>
15:05	T4.1-4	iTENG in self-powered medical electronic devices <i>Zhou Li</i>
15:20	T4.1-5	A biomimetic mitral heart valve design which reduces left ventricular turbulence <i>Sean Guo-Dong Tan, Hua Liang Leo</i>
15:35	T4.1-6	Membrane curvature at the nano-bio interface <i>Wenting Zhao, Hsin-Ya Lou, Francesca Santoro, Allister McGuire, Bianxiao Cui</i>

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<b>Session C2</b>	<b>Young Investigator Award Presentation II</b>	V312, 14:15 - 15:45, 31 July
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14:15	C2-1	Biomechanical evaluation of the design of the total ankle arthroplasty <i>Yan Wang, Duo Wai-Chi Wong, Qitao Tan, Linwei Chen, Ming Zhang</i>
14:30	C2-2	Biomechanical consideration of prosthesis selection in hybrid surgery for bi-level cervical disc degenerative diseases <i>Zhongjun Mo, Yubo Fan</i>
14:45	C2-3	An in vivo measurement of patellofemoral kinematics with experimental validation <i>Jie Yao, Bin Yang, Yubo Fan</i>
15:00	C2-4	Combined musculoskeletal multi-body dynamics and finite element investigation of a customized distal femoral-fracture locking plate <i>Xunjian Fan, Zhenxian Chen, Zhongmin Jin</i>
15:15	C2-5	Ankle sprain in a mouse model <i>Junkun Li, Yu Cheng, Jia Yu</i>
15:30	C2-6	Anatomy structure of soft tissue in the cervical spine of the great spotted woodpecker <i>Yalin Cui, Lizhen Wang, Yubo Fan</i>

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~ Tea Break 15:45-16:00 ~

~ Poster Session I (Core V Podium) 16:00-16:30 ~

Oral Session III (90 min)

16:30 – 18:00, 31 Jul

Session	Special Symposium 1: Advanced Sensors and Measurement Techniques I		
SP1.1	Chair: Mo Yang, Qingjun Liu		V302, 16:30 – 18:00, 31 July
16:30	SP1.1-1	<b>Invited Speech</b> Smartphone based biosensors and bioelectronics <i>Shuang Li, Gang Xu, Daizong Ji, Lei Liu, Yanli Lu, Qingjun Liu</i>	
16:50	SP1.1-2	<b>Invited Speech</b> Multifunctional 2D nanomaterials based nanoprobe for sensing, imaging and drug delivery <i>Mo Yang</i>	
17:10	SP1.1-3	<b>Invited Speech</b> Hydrogel-based artificial cells <i>Bo Zheng</i>	
17:30	SP1.1-4	<b>Invited Speech</b> Biomimetic olfactory- and taste-based biosensors for chemical sensing <i>Chunsheng Wu, Fangming Chen, Liping Du, Jian Wang</i>	
Session	Medical Imaging Processing and Application		V303, 16:30 – 18:00, 31 July
T2.3	Chair: Shunqi Zhang, Matti Huotari		
16:30	T2.3-1	A study on magneto-acoustic signals under continuous sinusoidal excitation <i>Shunqi Zhang, Tao Yin, Zhipeng Liu</i>	
16:45	T2.3-2	Combining infrared thermal imaging and photoplethysmography for the detection of vessel wall elasticity <i>Matti Huotari, Juha Rönning, Kari Remes, Kari Määttä, Pekka Romsa</i>	
17:00	T2.3-3	A better digital filtering technique for estimation of SPO <sub>2</sub> and heart rate from PPG signals <i>Anagha Sasindran, Ramachandran K I</i>	
17:15	T2.3-4	Intermittent transcranial theta burst stimulation using electrical stimulation over primary motor cortex of subacute stroke patients <i>Chien-An Chen, Zheng-Yu Hoe, Hsiao-Yu Lee, Jia-Jin Chen</i>	
Session	Biomechanics of Head and Dentistry		V322, 16:30 – 18:00, 31 July
T3.4	Chair: Liu Zhan, Lizhen Wang		
16:30	T3.4-1	Bio-inspired design of dental multilayers <i>Xinrui Niu, Bing Chen, Huanyun Ji, Zijian Yao, Jian Lu, Wole Soboyejo</i>	
16:45	T3.4-2	The differences in stress distributions in the temporomandibular joint between patients with facial asymmetry and asymptomatic subjects: a three-dimensional finite element study <i>Zhan Liu, Yuan-Li Zhang, Xian-Chao Xu</i>	
17:00	T3.4-3	The retinal damage caused by acceleration: a finite element study <i>Xiaoqi Geng, Xiaoyu Liu, Yubo Fan</i>	
17:15	T3.4-4	Biomechanical performance analysis and design optimization for pillow <i>Jin Lin</i>	
17:30	T3.4-5	Finite element analysis of a customized reconstruction plate for mandibular continuity defect <i>Danmei Luo, Xiangliang Xu, Chuanbin Guo, Qiguo Rong</i>	
Session	Biosensors and Bionanotechnology		V321, 16:30 – 18:00, 31 July
T4.2	Chair: Thomas Ming-Hung Lee, Weiwei Ye		
16:30	T4.2-1	Surface Enhanced Raman Spectroscopy (SERS) with gold nanostars for diagnostics of Hand, Foot and Mouth Disease (HFMD) <i>Miguel Reyes, Shuai He, Jefri Chua, Marek Piotrowski, Swee Kim Ang, Jingqi Chan, Justin Chu, Eddie Tan, James Chen Yong Kah</i>	
16:45	T4.2-2	Non-invasive monitoring of gene expression for cartilage tissue engineering with molecular beacon nanosensors <i>Li Min Tay, Christian Wiraja, David C. Yeo, Yingnan Wu, Zheng Yang, Eng Hin Lee, Chenjie Xu</i>	
17:00	T4.2-3	Nanoporous alumina membrane based biosensor for oxidative DNA damage, 8-hydroxy-2'-deoxyguanosine detection and DNA repair enzyme activity analysis <i>Weiwei Ye, Tian Chen, Yefei Chen</i>	

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17:15	T4.2-4	Gold nanorod-based hybrid nanoparticles for cancer diagnosis and therapy <i>Qingwen Guan, Li-Wu Zheng, Min Wang</i>
17:30	T4.2-5	Odorant-binding proteins based biosensor for gustatory sensing <i>Yanli Lu, Yixuan Huang, Shuang Li, Jiajia Wu, Qingjun Liu</i>
17:45	T4.2-6	Automatic preparation device of sclerosing foam based on Tessari method <i>Tao-ping Bai, Hao Wan, Wu Zhao, Wen-Tao Jiang</i>
<b>Session C3</b>	<b>Young Investigator Award Presentation III</b>	
		V312, 16:30 – 18:00, 31 July
16:30	C3-1	Comparison of the rehabilitation effectiveness of EMG-driven robot hand assisted upper-limb training provided in practical clinical service and lab setting <i>Yanhuan Huang, Xiaoling Hu, Qiuyang Qian, Yongping Zheng</i>
16:45	C3-2	Leap motion-based upper limb training and evaluation system for post-stroke rehabilitation <i>Chingyi Nam, Xiaoling Hu, Ziqi Guo, Kaming Chan, Yunong Xie, Kaling Wong, Wei Rong, Waiming Li, Yongping Zheng</i>
17:00	C3-3	Evaluation of assistive capability of a neuromuscular electrical stimulation-robotic hybrid rehabilitation device <i>Ziqi Guo, Xiaoling Hu, Chingyi Nam, Yongping Zheng</i>
17:15	C3-4	A wearable plantar-force based vibrotactile biofeedback system improving balance of patients with stroke during walking <i>Christina Zong-Hao Ma, Winson Chiu-Chun Lee, Yongping Zheng</i>
17:30	C3-5	Design of a wearable exoskeleton suit for motion assistance in paraplegic patients <i>Bing Chen, Xi Li, Chun-Hao Zhong, Xuan Zhao, Sheung-Wai Law, Wei-Hsin Liao, Ling Qin</i>
17:45	C3-6	Early stroke rehabilitation of the upper limb assisted with an electromyography (EMG) – driven neuromuscular electrical stimulation (NMES) robotic training system <i>Qiuyang Qian, Xiaoling Hu, Qian Lai, Stephanie Ng, Yongping Zheng, Yanhuan Huang, Wai-sang Poon</i>

**Tuesday 01 August 2017**

<b>8:30</b>	<b>Plenary Session III (V322)</b> Prof. Kirk Shung, Ph.D. University of Southern California <i>Applications of Ultrahigh Frequency Ultrasound to Cellular Engineering</i>	Chair: Yongping Zheng, Zonglai Jiang
<b>9:00</b>	Prof. Yubo Fan, Ph.D. National Research Centre for Rehabilitation Technical Aids <i>Effect of Stress on Degradation Process of Biodegradable Materials</i>	

Oral Session IV (60-65 min)

09:30 – 10:30, 01 Aug

<b>Session T1.3</b>	<b>Regenerative Medicine III</b>	
	<b>Chair: Xi-Qian Feng, Xiaoyi Liu</b>	
		V302, 09:30 – 10:30, 01 Aug
09:30	T1.3-1	<b>Invited Speech</b> Poroelastic theory of avascular tumor growth <i>Xi-Qiao Feng, Shi-Lei Xue, Bo Li</i>
09:50	T1.3-2	Collagen fibril alteration in degenerative annulus fibrosus <i>Ting Liang, Zong-Ping Luo</i>
10:05	T1.3-3	Capture and arrangement of myoblasts using a novel composite micropattern <i>Xiaoyi Liu, Yaoping Liu, Wei Wang, Feng Zhao, Yan Sun, Yubo Fan</i>

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10:20 T1.3-4 Synergistic cancer photoablation and amplified photothermal performance by graphene/gold nanostar/photosensitizer theranostics  
*Chunhui Wu, Dan Li, Lianhui Wang, Xiaotian Guan, Yuan Tian, Hong Yang, Yiyao Liu*

**Session T3.5 Biomechanics of Lower Limb I** V322, 09:30 – 10:30, 01 Aug  
**Chair: Zhongmin Jin, Lizhen Wang**

09:30 T3.5-1 **Invited Speech**  
Latest developments of biomechanics modelling of artificial knee joints  
*Zhenxian Chen, Jing Zhang, Zhifeng Zhang, Zhongmin Jin*

09:50 T3.5-2 Development of knee rotational stability meter  
*Xi Li, Kam-Ming Mok, Sai-Chuen Fu, Kai-Ming Chan, Shu-Hang Yung*

10:05 T3.5-3 Novel anthropometric coordination system for total knee replacement prosthesis design  
*Chun-Sing Chui, J.Hui Qin, D.Fang Shi, K.Sui Leung, W.Hoi Cheung*

10:20 T3.5-4 Stress distribution on the magnesium screw implanted on rabbit femur  
*Tong Ha, Xiong Jiang, Yuanming Gao, Lizhen Wang, Yubo Fan*

**Session T3.6 Vascular Bioengineering II** V315, 09:30 – 10:30, 01 Aug  
**Chair: Yu Chen, Zhiyong Li**

09:30 T3.6-1 Hemodynamics study multilayer stent for treatment of different geometries of aneurysms  
*Yu Chen, Ying Si, Wentao Jiang, Xiaobao Tian, Yan Xiong, Qingyuan Wang, Yubo Fan*

09:45 T3.6-2 Numerically identify the rupture location in patient-specific abdominal aortic aneurysms  
*Yue Qiu, Ding Yuan, Liqing Peng, Jun Wen, Tinghui Zheng*

10:00 T3.6-3 Hemodynamic analysis of microvessels in atherosclerotic plaque  
*Muyi Guo, Xinke Yao, Yan Cai, Zhiyong Li*

10:15 T3.6-4 Fatigue life analysis of endovascular stent in a carotid stenosis model  
*Xinyang Cui, Qingshuai Ren, Zihao Li, Aike Qiao*

**Session T5.1 Cellular Bioengineering I** V321, 09:30 – 10:30, 01 Aug  
**Chair: Sharon Y.C. Ruan, Jianhua Wu**

09:30 T5.1-1 Effect of ATRA on calcium signalling of HL-60 on P-selectin under shear flow  
*Bing Huang, Ying Fang, Jianhua Wu*

09:45 T5.1-2 The role of endothelial microparticles induced by cyclic stretch in endothelial cell apoptosis  
*Fei Zhuang, Qian Shi, Ji-Ting Liu, Ping Zhang, Ying-Xiao Wang, Zong-Lai Jiang, Ying-Xin Qi*

10:00 T5.1-3 Polymer-based functional siRNA carriers in serum-containing conditions  
*Jian Liu, Jiang Wang, Jing Zhang, Huike Liu, Jie Meng, Haiyan Xu*

10:15 T5.1-4 Psychometric properties of Chen internet addiction scale using zeroth-level classifier system  
*Hong-Ming Ji, Liang-Yu Chen, Tzu-Chien Hsiao*

**Session C4 Young Investigator Award Presentation IV** V312, 09:30 – 10:30, 01 Aug

09:30 C4-1 The evaluation of brain tumor in small animal with plane wave Doppler image  
*Jingjing Xia, Yi Yang, Chenwenbao Hu, Hairong Zheng, Weibao Qiu*

09:45 C4-2 Molecular optical imaging facilitates prostate cancer diagnosis  
*Shuhua Yue, Sishan Cui, Jun Du, Ping Wang*

10:00 C4-3 Characterization of viscoelastic properties of bone cancer tissue  
*Suhao Qiu, Yong Wang, Xuefeng Zhao, Guanghui Xuan, Mingyuan Gao, Yuan Feng*

10:15 C4-4 Preliminary assessment of corneal lenticule biomechanical properties with inflation test using optical coherence tomography  
*Di Wu, Li-Ke Wang, Xue-Yong Zhang, George P.M. Cheng, Yan Wang, Yong-Ping Zheng*

~ Tea Break 10:30-11:00 ~

Oral Session V (90 min)

11:00 – 12:30, 01 Aug

**Session T1.4 Biomaterials** V302, 11:00 – 12:30, 01 Aug  
**Chair: Ling Qin, Kaiyong Cai**

11:00 T1.4-1 **Invited Speech**

		Mg-based biometal and hybrid fixation device as an innovative concept to promote fracture healing and its clinical translation <i>Ling Qin</i>
11:20	T1.4-2	<b>Invited Speech</b> Bioceramics and developments <i>Min Wang</i>
11:40	T1.4-3	<b>Invited Speech</b> Surface biofunctionalization of biomedical titanium and its alloys <i>Yan Hu, Xinkun Shen, Kaiyong Cai</i>
12:00	T1.4-4	A quantitative study on magnesium alloy biodegradation process <i>Lizhen Wang, Yuanming Gao, Tong Ha, Xiong Jiang, Yubo Fan</i>
<b>Session T2.4</b>	<b>Biosignal Processing and Health Informatics</b>	V303, 11:00 – 12:30, 01 Aug
		<b>Chair: Jia-jin Jason Chen, Zengyong Li</b>
11:00	T2.4-1	<b>Invited Speech</b> Asymmetric cerebral hemodynamic oscillation in acute ischemic stroke <i>Chun-wei Wu, Chun-man Yuen, Jia-jin Jason Chen</i>
11:20	T2.4-2	<b>Invited Speech</b> Functional connectivity in elderly subjects with hypertension as assessed by wavelet phase coherence of NIRS signals <i>Lingguo Bu, Jianfeng Li, Zhian Liu, Gongcheng Xu, Zengyong Li</i>
11:40	T2.4-3	Sleep deprivation-related change in phase synchronization as revealed by wavelet phase coherence analysis of prefrontal tissue oxyhemoglobin signals <i>Lingguo Bu, Jianfeng Li, Zhian Liu, Gongcheng Xu, Zengyong Li</i>
11:55	T2.4-4	Mining algorithms for xinjiang local liver hydatid based on BP neural network <i>Ximei Kong, Murat Hamit, Chuan-bo Yan, Juan Yao, Abdugheni Kutluk</i>
12:10	T2.4-5	Clinical laboratory information system and the inquiry of patient's test results <i>Pazilya, Murat Hamit, Chuan-bo Yan, Juan Yao, Abdugheni Kutluk</i>
<b>Session T3.7</b>	<b>Biomechanics of Trunk and Upper Limb</b>	V322, 11:00 – 12:30, 01 Aug
		<b>Chair: Xiaoling Hu, Ming Ni</b>
11:00	T3.7-1	Research on the biomechanical stability of laparoscopic-assisted plate used for fixing pelvic anterior ring fracture based on numerical computations <i>Yiqian He, Yongtao Lu, Baosheng Yin, Li Yu</i>
11:15	T3.7-2	Towards the improved prediction power for the prediction of vertebral failure loads <i>Yongtao Lu, Yue Liu, Chengwei Wu, Gerd Huber</i>
11:30	T3.7-3	Phase synchronization analysis for precision grip with tactile perturbation <i>Ke Li, Na Wei, Shouwei Yue</i>
11:45	T3.7-4	Biomechanical analysis of four augmented fixations of plate osteosynthesis for comminuted mid-shaft clavicle fracture <i>Ming Ni, Jiong Mei, Wenxin Niu, Chiaying James Lin</i>
12:00	T3.7-5	Effects of backpack load on lumbosacral joint compression force profile and magnitude during walking <i>Simon S.W. Li, Daniel H.K. Chow</i>
12:15	T3.7-6	Research on the biomechanics of lumbar muscles based on musculoskeletal model <i>Xiaotong Zhan, Zhiyong Li, Qiang Chen</i>
<b>Session T5.2</b>	<b>Molecular Bioengineering I</b>	V321, 11:00 – 12:30, 01 Aug
		<b>Chair: Yi-Xian Qin, Jianhu Wu</b>
11:00	T5.2-1	<b>Invited Speech</b> Acoustic radiation force modulation on osteocytic calcium exchange in response to induced fluid flow using Black6 and Ai38/Dmp1-Cre mice <i>Minyi Hu, Yi-Xian Qin</i>
11:20	T5.2-2	<b>Invited Speech</b> A direct observation of slip-catch-slip transition of VWF A1-GPIIb $\alpha$ bond through molecular dynamics simulation <i>Guangjian Liu, Ying Fang, Jianhua Wu</i>
11:40	T5.2-3	Mechanical stability of the $\alpha$ I domain of LFA-1

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*Wenping Liu, Ying Fang, Jianhua Wu*

11:55 T5.2-4 Nano-biomechanical study of spatio-temporal cytoskeleton rearrangements in endothelial cell  
*Xin Wang*

Session C5	Young Investigator Award Presentation V		V312, 11:00 – 12:30, 01 Aug
11:00	C5-1	Emerging role of endothelin receptor type B in regulating chondrogenic and hypertropic changes of human mesenchymal stem cells <i>Man Ting Au, Mei Ling Zhu, Li Ming Bian, Chun Yi Wen</i>	
11:15	C5-2	The effects of YAP/TAZ on fluid shear stress induced proliferation of human dental pulp stem cells <i>Jingyi Jiang, Jinpeng Gui, Lingyu Zhang, Jing Na, Qiusheng Shi, Yuhsuan Wang, Chuqian Huyan, Xiaocheng Zhou, Yubo Fan, Lisha Zheng</i>	
11:30	C5-3	Dose-dependent effects of irisin on osteoblast proliferation and differentiation <i>Yuwei Zhang, Lizhen Wang, Hongyan Kang, Xili Ding, Chia-ying Lin, Yubo Fan</i>	
11:45	C5-4	In vivo evaluation of the PLGA/TCP/Mg Porous scaffold fabricated by 3D-printing for bone regeneration <i>Ye Li, Jing Long, Hui-Juan Cao, Long Li, Xin-Luan Wang, Yu-Xiao Lai, Ling Qin</i>	
12:00	C5-5	Ultrasonic toolkits for precise control of neuron activity <i>Zhihai Qiu, Jinghui Guo, Yaoheng Yang, Jingyao Wang, Rui Zhang, Jiejun Zhu, Shashwati Kala, Hsiao Chang Chan, Lei Sun</i>	

~ Lunch 12:30-13:45 ~

**13:45 Plenary Session IV (V322)** Chair: Fong-Chin Su  
Dr. Zong-Ming Li, Ph.D.  
Cleveland Clinic  
*A Bioengineering Shift of A Century Old Paradigm for Median Nerve Decompression Engineering*

Oral Session VI (90 min) 14:15 – 15:45, 01 Aug

Session SP3.1	Special Symposium 3: Light-sound Synergy and its Applications in Biomedicine I		V302, 14:15 – 15:45, 01 Aug
SP3.1	Chair: Puxiang Lai, Cheng Ma		
14:15	SP3.1-1	<b>Invited Speech</b> Focusing through live tissue with fast digital optical phase conjugation <i>Daifa Wang</i>	
14:35	SP3.1-2	<b>Invited Speech</b> Recent progress in optical time-reversal based focusing inside scattering media <i>Cheng Ma</i>	
14:55	SP3.1-3	<b>Invited Speech</b> Frequency multiplexing photoacoustic Doppler technique for simultaneous measurement of blood speed and oxygen saturation <i>Hui Fang, Hongcai Zhao</i>	
15:15	SP3.1-4	<b>Invited Speech</b> A new high-pass filter kernel for model-based photoacoustic tomography reconstruction <i>Tong Tong, Kun Wang, Jie Tian</i>	
15:35	SP3.1-5	The design of laser-induced ultrasound transducer array <i>Queenie Tsung Kwan Shea, Yongping Zheng</i>	
Session SP2.1	Special Symposium 2: Foot and Ankle Bioengineering		V303, 14:15 – 15:45, 01 Aug
SP2.1	Chair: Wen-Ming Chen, Duo Wai-Chi Wong		

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14:15	SP2.1-1	<b>Invited Speech</b> Rapid generation of automatic-specific finite element model of human foot to be used in clinical studies <i>Wen-Ming Chen</i>
14:35	SP2.1-2	<b>Invited Speech</b> Ways of idea creation for footwear innovation <i>Gilbert Wing-Kai Lam, Yi Qu, Rui-Ya Ma, Ben-Gang Yu, Fan Yang</i>
14:55	SP2.1-3	<b>Invited Speech</b> Treatment of relapsed rigid idiopathic clubfoot in elder children by the Ponseti method combined with Illizarov technique <i>Xu Li</i>
15:10	SP2.1-4	Metatarsal stress after subtalar arthroereisis <i>Duo Wai-Chi Wong, Yan Wang, Min Yang, Tony Lin-Wei Chen, Aaron Kam-Lun Leung, Ming Zhang</i>
15:25	SP2.1-5	Long-term effects of a stretching ankle-foot orthosis for spastic equinus in children with cerebral palsy <i>Wei Chen, Fang Pu, Xiaoyu Liu, Hong Liu, Yubo Fan</i>
<b>Session T3.8</b>	<b>Vascular Bioengineering III</b>	V322, 14:15 – 15:45, 01 Aug
	<b>Chair: Xiaoyan Deng, Aike Qiao</b>	
14:15	T3.8-1	A mathematical model of tumor growth and microenvironment in response to vessel normalization <i>Yan Cai, Jie Wu, Quan Long, Zhiyong Li</i>
14:30	T3.8-2	The degradation behaviour of PLGA stent under different loading patterns: a numerical investigation <i>Meng Guo, Zhaowei Chu, Jie Yao, Lizhen Wang, Yubo Fan</i>
14:45	T3.8-3	Stress analysis of aortic leaflets with two hypotheses of stress free state <i>Zhaoyong Gu, Youlian Pan, Aike Qiao, Nianguo Dong, Yinglong Liu</i>
15:00	T3.8-4	Improvement of hemodynamic performance using novel helical flow vena cava filter design <i>Ying Chen, Peng Zhang, Xiaoyan Deng, Yubo Fan, Yubin Xing, Ning Xing</i>
15:15	T3.8-5	Hemodynamic effect of spiral flow on endovascular aneurysm repair <i>Ming Liu, Anqiang Sun, Xiaoyan Deng</i>
<b>Session T5.3</b>	<b>Molecular Bioengineering II</b>	V321, 14:15 – 15:45, 01 Aug
	<b>Chair: Mian Long, Peter Lee</b>	
14:15	T5.3-1	<b>Invited Speech</b> Intercellular communication induced by mechanical stress modulates vascular remodelling <i>Ying-Xin Qi</i>
14:35	T5.3-2	<b>Invited Speech</b> Interactions of hepatic and hemopoietic cells under shear flow <i>Yu Du, Hao Yang, Ning Li, Mian Long</i>
14:55	T5.3-3	<b>Invited Speech</b> Mechanopharmacology: biomechanics of human lung cells and cell aggregates for drug testing <i>Fernando Jativa, Asres Berhan, Trudi Harris, Jade Jaffar, Glen Westall, Peter Lee, Alastair Stewart</i>
15:15	T5.3-4	Mechanics of collective cell behaviors in 2D and 3D environment <i>Baohua Ji</i>
<b>Session C6</b>	<b>Young Investigator Award Presentation VI</b>	V312, 14:15 – 15:45, 01 Aug
14:15	C6-1	Application of microarc-oxidation treated magnesium pins for fixation of transverse patellar fracture in rabbits <i>Dick Ho Kiu Chow, Jiali Wang, Peng Wan, Ke Yang, Ling Qin</i>
14:30	C6-2	Efficient one-step production of liver microtissues in microfluidics generated double emulsion droplets <i>Hon Fai Chan, Kam W. Leong</i>
14:45	C6-3	Low-magnitude high-frequency vibration enhances inflammatory response in osteoporotic fracture healing in rat model

*Avice Yu-Ning Chim, Kwok-Sui Leung, Simon Kwoon-Ho Chow, Wing-Ho Cheung*

15:00	C6-4	Cancer cell targeting and internalization of theranostics released from advanced tissue engineering scaffolds <i>Lin Guo, Li-wu Zheng, Min Wang</i>
15:15	C6-5	Membrane curvature at the nano-bio interface <i>Wenting Zhao, Hsin-Ya Lou, Franceseca Santoro, Allister McGuire, Bianxiao Cui</i>

~ Poster Session II (Core V Podium) 16:00-16:30 ~

Oral Session VII (90 - 105 min)

16:30 – 18:00, 01 Aug

Session	Special Symposium 4: Neural Engineering for Rehabilitation I	V302, 16:30 – 18:00, 01 Aug
SP4.1	<b>Chair: Xiaoling Hu , Le Li</b>	
16:30	SP4.1-1 <b>Invited Speech</b> Sensorimotor rehabilitation after Intracerebral Hemorrhage (ICH) – a rat model study <i>Xiaoling Hu, Tzeyan Lai, Uncheng Chang, Gang Lu</i>	
16:50	SP4.1-2 <b>Invited Speech</b> Control strategies of a cable-based rehabilitation robot for different rehabilitation needs <i>Yao Huang, Jie Niu, Jie Luo, Qianqian Yang, Rong Song</i>	
17:10	SP4.1-3 <b>Invited Speech</b> Upper limb motor deficit during reaching movement in stroke survivors: a pilot study <i>Lifang Li, Qiang Lin, Yurong Mao, Dongfeng Huang, Le Li</i>	
17:30	SP4.1-4 <b>Invited Speech</b> Dorsal premotor area of the Macaque monkey participates the preparation of grasp movements <i>Guanghao Sun, Shaomin Zhang, Kedi Xu, Xiaoxiang Zheng</i>	
17:50	SP4.1-5 <b>Invited Speech</b> Development of closed-loop BMI system with intracortical microstimulation for prosthetic sensory feedback in rats <i>Kedi Xu, Furong Guo, Yan Cao, Shaomin Zhang</i>	
Session	Special Symposium 3: Light-sound Synergy and its Applications in Biomedicine II	V303, 16:30 – 18:00, 01 Aug
SP3.2	<b>Chair: Changhui Li, Lidai Wang</b>	
16:30	SP3.2-1 <b>Invited Speech</b> Fiber-laser-based photoacoustic microscopy <i>Lidai Wang</i>	
16:50	SP3.2-2 <b>Invited Speech</b> Photoacoustic imaging of cervical cancer on nude mice model with two wavelengths <i>Tianshuang Wang, Bo Wang, Kuan Peng, Xiaofei Luo, Jiaying Xiao</i>	
17:10	SP3.2-3 <b>Invited Speech</b> Optical ultrasonic detection based on polarization-dependent light reflection <i>Xiaoyi Zhu, Changhui Li</i>	
17:30	SP3.2-4 Initial clinical study by photoacoustic/ultrasound dual imaging system <i>Lingyi Zhao, Meng Yang, Fang Yang, Yuxin Jiang, Changhui Li</i>	
17:45	SP3.2-5 A novel handheld linear-array probe based photoacoustic imaging system towards clinical translation for breast cancer staging <i>Chengbo Liu, Mucong Li, Yuanyuan Bai, Liang Song</i>	
18:00	SP3.2-6 Focal zone integral based acoustic resolution photoacoustic microscopy with multiple axial scanning for high lateral resolution in-depth <i>Xiaofei Luo, Kuan Peng, Tianshuang, Wang, Bo Wang, Jiaying Xiao</i>	

Session	Biomechanics of Lower Limb II		V322, 16:30 - 18:00, 01 Aug
<b>T3.9</b>	<b>Chair: Jie Yao</b>		
11:00	T3.9-1	Gear-shifting of quadriceps during isometric knee extension? <i>Yongjin Zhou, Shu Zhang, Wenxin Shi, Shan Ling, Jingxu Xu, Xiaojuan Yang</i>	
11:15	T3.9-2	The effect of microgravity on muscle kinetics in human lower limb <i>Ning Guo, Jie Yao, Yubo Fan</i>	
11:30	T3.9-3	Optimized distribution of the elastic modulus of prostheses adaptive to the patient-specific biomechanical environment <i>Changning Sun, Zhongmin Jin, Ling Wang, Dichen Li, Jianfeng Kang</i>	
11:45	T3.9-4	Establishment and validation of knee joint finite element model <i>Haibo Liu, Peng Chen, He Gong</i>	
Session	Special Symposium 5: Rehabilitation Engineering and Elderly Care I		V321, 16:30 - 18:00, 01 Aug
<b>SP5.1</b>	<b>Chair: Man Sang Wong, Raymond Kai Yu Tong</b>		
16:30	SP5.1-1	<b>Invited Speech</b> Orthotic management of adolescent idiopathic scoliosis <i>Man Sang Wong</i>	
16:50	SP5.1-2	<b>Invited Speech</b> A novel evaluation and biofeedback training system in hand functions <i>Chen-Kai Chien, Po-Tsun Chen, Hsiu-Yun Hsu, Chien-Ju Lin, Hsiao-Feng Chieh, Li-Chieh Kuo, I-Ming Jou, Fong-Chin Su</i>	
17:10	SP5.1-3	<b>Invited Speech</b> Exoskeleton robotic training device for stroke rehabilitation <i>Raymond Kai Yu Tong</i>	
17:30	SP5.1-4	Cutaneous perfusion response to quantitative stress stimulus in weight-bearing position in patients with diabetes mellitus <i>Weiyuan Ren, Xuan Zheng, Fang Pu</i>	
Session	Young Investigator Award Presentation VII		V312, 16:30 - 18:00, 01 Aug
<b>C7</b>			
16:30	C7-1	Leg muscle activation patterns during walking in children with developmental coordination disorder: a cross-sectional study <i>Timothy Tsz Ting Yam, Shirley Siu Ming Fong</i>	
16:45	C7-2	Neuroplasticity of visual perception in balance control of cervical myelopathy patients: a quantitative posturography study <i>Xin Ma, Yong Hu, Kin Cheung Mak</i>	
17:00	C7-3	Analysis of facial expression on internet gaming disorder <i>Chen-Ning Wang, Hong-Ming Ji, Dai-Ling Hsieh, Tzu-Chien Hsiao</i>	
17:15	C7-4	Design concept of a wearable therapeutic device for knee joint: treatment and care of knee osteoarthritis (OA) <i>Li Zou, Ki-Sum Chu, Lai-Yinn Qin, Hao Ma, Wei-Hsin Liao, Ling Qin</i>	
17:30	C7-5	Sagittal spine analysis using 3D ultrasound: a preliminary study using spine phantom <i>Timothy Tin-Yan Lee, James Chung-Wai Cheung, Siu-Yu Law, Yongping Zheng</i>	
17:45	C7-6	Validation of textile electrodes embedded into compression apparel to measure surface electromyography <i>Xinyi Ji, Meng Huang</i>	

~ Conference Banquet      18:30-20:30 ~  
Chinese Garden (南北小廚), 4/F, Communal Building (Near Core S)

### Wednesday 02 August 2017

- 8:30 Plenary Session V (V322)** Chair: Ed X. Guo, Mian Long  
 Prof. Chwee Teck Lim, Ph.D.  
 National University of Singapore  
*Cell Mechanics Approaches for Disease Diagnosis and Therapy*
- 9:00** Prof. Ming Zhang, Ph.D.  
 The Hong Kong Polytechnic University  
*Computational Biomechanics of Foot and Ankle*

Oral Session VIII (60 – 65 min) 09:30 – 10:30, 02 Aug

Session	Tissue Engineering I	V302, 09:30 – 10:30, 02 Aug
<b>T1.5</b>	<b>Chair: Feng Xu, Xinru Niu</b>	
09:30	T1.5-1 <b>Invited Speech</b> Engineering 3D cell mechanical microenvironment using novel hydrogels and its biomedical applications <i>Feng Xu</i>	
09:50	T1.5-2 Carbon nanotubes reverse immune suppression of BMDCs <i>Jie Meng, Yali Dai, Jian Liu, Haiyan Xu</i>	
10:05	T1.5-3 Calcium concentration dependent collagen mineralization <i>Xufeng Niu, Rui Fan, Tianming Du, Yubo Fan</i>	
10:20	T1.5-4 Effect of nanoparticle/ polymer interphase on visco-hyperelastic behaviour of nanocomposite hydrogels <i>Yuexing Zhan, Yihui Pan, Bing Chen, Zheng Zhong, Jian Lu, Xinrui Niu</i>	
Session	Cell and Tissue Bioengineering II	V303, 09:30 – 10:30, 02 Aug
<b>T3.10</b>	<b>Chair: Chunyi Wen, Guixue Wang</b>	
09:30	T3.10-1 Oscillatory shear stress promoted high levels of lipid accumulation in vivo and in vitro <i>Kang Zhang, Yidan Chen, Tian Zhang, Lu Huang, Yi Wang, Tieying Yin, Juhui Qiu, Hans Gregersen, Guixue Wang</i>	
09:45	T3.10-2 Evaluation on trabecular microstructural properties of osteonecrosis femoral head <i>Chenglong Feng, Peng Xu, Lizhen Wang, He Gong, Wei Sun, Zirong Li, Yubo Fan</i>	
10:00	T3.10-3 Effects of the lipid core in plaque on the drug delivery from drug-eluting stent <i>Zhaowei Chu, Meng Guo, Jie Yao, Lizhen Wang, Yubo Fan</i>	
10:15	T3.10-4 Age-related changes of morphological, biochemical and mechanical properties in articular cartilage and subchondral bone of rat tibial plateau <i>Pengling Ren, Haijun Niu, He Gong, Rui Zhang, Yubo Fan</i>	
Session	Biomechanics of Lower Limb III	V322, 09:30 – 10:30, 02 Aug
<b>T3.11</b>	<b>Chair: Zhongmin Jin, Daniel Hung Kay Chow</b>	
09:30	T3.11-1 Knee contact force prediction in an implant using musculoskeletal modelling without force plates <i>Yinghu Peng, Zhenxian Chen, Zhongmin Jin</i>	
09:45	T3.11-2 Development of a patient-specific musculoskeletal model of total ankle arthroplasty using force-dependent kinematics <i>Yanwei Zhang, Zhenxian Chen, Zhongmin Jin</i>	
10:00	T3.11-3 Effect of running experiences on the characteristics of stride time series during treadmill running <i>ShiWei Mo, Daniel HungKay Chow</i>	

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10:15 T3.11-4 Insensitivity of knee kinematic and contact force on femoral sagittal radius design in total knee arthroplasty  
*Qida Zhang, Zhenxian Chen, Zhongmin Jin*

Session C8	<b>Young Investigator Award Presentation VIII</b>		V312, 09:30 – 10:30, 02 Aug
09:30	C8-1	Hemodynamics and LDL transport in rabbit aorta <i>Xiaoyin Li, Xiao Liu, Peng Zhang, Chenglong Feng, Anqiang Sun, Hongyan Kang, Xiaoyan Deng, Yubo Fan</i>	
09:45	C8-2	A study on hemodynamic state of residual limb after trans-femoral amputation <i>Rui-Qi Dong, Wen-Tao Jiang, M.S. Wong, Ming Zhang, Aaron Leung</i>	
10:00	C8-3	In vitro hydrodynamics evaluation of transcatheter heart valve with variable geometric configuration <i>Xianda Yang, Wentao Feng, Yang Liu, Lizhen Wang, Yubo Fan</i>	

~ Tea Break 10:30-11:00 ~

Oral Session XI (90 min) 11:00 – 12:30, 02 Aug

Session SP1.2	<b>Special Symposium 1: Advanced Sensors and Measurement Techniques II</b>		V302, 11:00 – 12:30, 02 Aug
<b>Chair: Bo Zheng, Changqing Yi</b>			
11:00	SP1.2-1	<b>Invited Speech</b> In situ reduction of silver nanoparticles on hybrid polydopamine-copper phosphate nanoflowers with enhanced antimicrobial activity <i>Mei Zhang, Zuankai Wang</i>	
11:20	SP1.2-2	<b>Invited Speech</b> Synthesis and surface engineering of carbon nanodots for bioanalysis <i>Changqing Yi</i>	
11:40	SP1.2-3	<b>Invited Speech</b> Integrated microfluidic devices for liquid biopsy biomarker detection and molecular profiling <i>Yan Chen</i>	
12:00	SP1.2-4	Carbonized silk fabric based strain sensors for respiration monitoring <i>Sujie Chen, Bengang Zhuo, Kaipei Zhen, Ruili Liu, Xiaojun Guo</i>	
Session SP4.2	<b>Special Symposium 4: Neural Engineering for Rehabilitation II</b>		V322, 11:00 – 12:30, 02 Aug
<b>Chair: Rosa H.M. Chan, Shaomin Zhang</b>			
11:00	SP4.2-1	<b>Invited Speech</b> Hand gesture recognition based on sensors at wrist <i>Nabeel Siddiqui, Rosa H.M. Chan</i>	
11:20	SP4.2-2	<b>Invited Speech</b> Building a real-time cerebellum neuroprosthesis <i>Tao Xu, Na Xiao, Chung Tin</i>	
11:40	SP4.2-3	<b>Invited Speech</b> The blood-brain barrier solute permeability can be transiently increased by transcranial direct current stimulation in vivo <i>Bingmei M. Fu, Da Wi Shin, Niranjana Khadka, Jie Fan, Marom Bikson</i>	
12:00	SP4.2-4	A 128-channel ultrasound system for ultrasound neuro-modulation <i>Wu Sun, Juan Zhou, Wenbin Yan, Jiaying Yang, Weibao Qiu, Hairong Zheng</i>	
12:15	SP4.2-5	A portable ultrasound system for non-invasive ultrasonic neuro-modulation <i>Xianyi Gu, Guofeng Li, Juan Zhou, Wenbin Yan, Jiaying Yang, Wu Sun, Hairong Zheng, Weibao Qiu</i>	
Session SP5.2	<b>Special Symposium 5: Rehabilitation Engineering and Elderly Care II</b>		V315, 11:00 – 12:30, 02 Aug
<b>Chair: Fang Pu, Wenxin Niu</b>			
11:00	SP5.2-1	The knee biomechanics in Tai Chi exercise <i>Wenxin Niu, Yan Li, Tongbo Chang, Shengnian Zhang</i>	

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11:15	SP5.2-2	Development of a novel dynamic seating system <i>Chun-Ting Li, Teng-Fu Chang, Yen-Nien Chen, Yen-Ting Tseng, Kuen-Horng Tsai</i>
11:30	SP5.2-3	Control and design of a soft and wearable robotic glove for hand rehabilitation <i>Guangshuai Peng, Stuart Biggar, Wei Yao, Lizhen Wang, Yubo Fan</i>
11:45	SP5.2-4	A feasibility and reliability study of using clinical ultrasound for assessment of spinal flexibility in the patients with adolescent idiopathic scoliosis (AIS) <i>Chen He, Man Sang Wong</i>
12:00	SP5.2-5	Differences of the postural control ability in elderly with and without degenerative lumbar disorders <i>Hi-Hsuan Lee, Yun-Chung Lin, Chi-Chien Niu, Wen-Chien Chen, Meng-Ling Lu, Yu-Chih Chiang, Chih-Hsiu Cheng</i>
12:15	SP5.2-6	Evaluation of an innovative orthotic casting for adolescent idiopathic scoliosis <i>Babak Hassan Beygi, Man Sang Wong</i>

~ Lunch 12:30-13:45 ~

Oral Session X (60 min)

13:45 – 14:45, 02 Aug

<b>Session T3.12</b>	<b>Biomechanics of Spinal Surgery</b>	V322, 13:45 – 14:45, 02 Aug
	<b>Chair: Li-Xin Guo, James Cheung</b>	
13:45	T3.12-1	Effect of the compressive follower preload on dynamic response of the lumbar spine to the axial cyclic load <i>Wei Fan, Li-Xin Guo</i>
14:00	T3.12-2	A biomechanical analysis of pedicle screw sizes on the stability of implantation after fatigue loading <i>Jaw-Lin Wang, Yu-Tang Shih, Yi-Hsing Chen, Dar-Ming Lai</i>
14:15	T3.12-3	The use of a PEEK rod fixation system adjacent to a multi-level spinal fusion may reduce risk of proximal junctional kyphosis <i>Mingzheng Zhang, Fang Pu, Yu Wang</i>
14:30	T3.12-4	Biomechanical effect on lumbar spine model after pedicle-lengthening osteotomy <i>Lei Qian, Jun Ouyang, Koji Mizuno, Daisuke Ito</i>
<b>Session T1.6</b>	<b>Tissue Engineering II</b>	V303, 13:45 – 14:45, 02 Aug
	<b>Chair: Xin Zhao, Weiwei Jiang</b>	
13:45	T1.6-1	Porous scaffolds for in vitro organoid culture <i>Zheng Liu, Eliza Fong, Farah Tasnim, Hanry Yu</i>
14:00	T1.6-2	Generation of multi-cell micropatterns using a $\mu$ -eraser technique <i>Yan Li, Liuyang Xuan, Jianhua Zhou</i>
14:15	T1.6-3	rhBMP-2 impedes malignancy of tumorigenic cells in human osteosarcoma xenografted mice <i>QiSheng Xiong, LiZhen Wang, Yan Huang, Chia-Ying Lin</i>
14:30	T1.6-4	Design of advanced hydrogel dressing with hydrophilic polyurethane <i>Feng Wu, Yangling Li, Bin Fei</i>
<b>Session T5.4</b>	<b>Cellular Bioengineering II</b>	V315, 13:45 – 14:45, 02 Aug
	<b>Chair: Youhua Tan, Yan Zhang</b>	
13:45	T5.4-1	Soft microenvironments select tumorigenic liver cancer stem cells via isolation and de-differentiation <i>Youhua Tan, Xingxing Zhang, Jinghua Sun</i>
14:00	T5.4-2	Dynamic contribution of P- and E-selectin to beta-2 integrin induced neutrophil transmigration <i>Yan Zhang, Yixin Gong, Shiliang Feng, Xiaofeng Liu, Shouqin Lü, Mian Long</i>
14:15	T5.4-3	Selective temperature-dependent transport tuned by aquaporins <i>Kwang-Hua Chu</i>
14:30	T5.4-4	Increasing the stress concentration on the cell membrane and cortex to improve the insertion efficiency

~ Break 14:45-15:00 ~

- 15:15 Plenary Session VI (V322)** Chair: Ling Qin  
Prof. Cheng-Kung Cheng, Ph.D.  
National Yang Ming University  
*Translational Research of Biomechanics – From Clinical Observations to Clinical Solutions*
- 15:45 Closing Ceremony (V322)** Chair: Ming Zhang  
*Young Investigator Award*  
  
*Closing Speech*  
Fong-Chin Su, President-Elect, World Association for Chinese Biomedical Engineers

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Poster Program – Session I  
31 Jul, 16:00-16:30

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Poster	Session I	Core V (Jockey Club Innovation Tower) Podium, 31 Jul, 16:00-16:30
	Mount up 12:30 – 16:00, 31 Jul	
	Remove 16:30 – 18:00, 31 Jul; 08:30 – 11:00, 01 Aug	
	<b>Young Investigator Award</b>	
CP1-1	Low-magnitude high-frequency vibration (LMHFV) accelerated foot wound healing by reducing blood glucose level, enhancing blood circulation, and PCNA and VEGF expressions in the streptozotocin-induced diabetic rats <i>Caroline Oi-Ling Yu, Kwok Sui Leung, Kwok Pui Fung, Simon Kwoon-Ho Chow, Wing-Hoi Cheung</i>	
CP1-2	Mechanically robust hydrogel with stiffness gradients for meniscus substitution <i>Zhengkun Chen, Mong Lung Poon, Kharis Daniel Setiasabda, Tanyaporn Panyang, Chunyi Wen</i>	
CP1-3	3d printing of highly stretchable and tough hydrogels into complex, cellularized structures <i>Hon Fai Chan, Kam W. Leong, Xuanhe Zhao</i>	
CP1-4	Two-photon photochemical crosslinking based immobilization of neutravidin on protein matrix surface <i>Xinna Wang, Barbara Chan</i>	
CP1-5	Bijels-derived hydrogel hybrid membranes for potential biomedical applications <i>Haoran Sun, Min Wang</i>	
CP1-6	Making cell fibers via electrospinning for cell delivery in tissue engineering <i>Qilong Zhao, Haoran Sun, Min Wang</i>	
CP1-7	Mechano growth factor enhances mesenchymal stem cell function in cutaneous wound healing and angiogenesis <i>Qianzhen Zhang, Chao Jiang, Shuangchi Wu, Li Yang</i>	
CP1-8	Enhancement of photoacoustic imaging with optical wavefront shaping <i>Zhipeng Yu, Huanhao Li, Puxiang Lai</i>	
CP2-1	Facile synthesis of carbon dots (CDs)-based nanoprobe for fluorescence (FL)/magnetic resonance (MR) dual-modal imaging <i>Yaning Fang, Changqing Yi</i>	
CP2-2	In vivo molecular ultrasound imaging of glioblastoma angiogenesis using endoglin-targeted microbubbles <i>Cheng Liu, Yajie Xu, Junlong Chi, Fei Yan, Lei Sun</i>	
CP2-3	Nano gas vesicle: a non-linear molecular reporter with dual-resonance for ultrasound imaging <i>Yaoheng Yang, Zhihai Qiu, Xuandi Hou, Lei Sun</i>	
CP2-4	Enhanced sonodynamic therapy by oxygen-rich nano gas vesicle <i>Yaoheng Yang, Xuandi Hou, Zhihai Qiu, Rui Zhang, Lei Sun</i>	
CP2-5	Muscle fatigue revealed by muscular oxygenation based on near-infrared spectroscopy method <i>Qitao Tan, Yan Wang, Ming Zhang</i>	
CP3-1	The study on the relationship between physiological parameters and FFT ratio of graft flow waveforms in CABG <i>Boyan Mao, Wenxin Wang, Bao Li, Youjun Liu</i>	
CP3-2	The relationship between medial knee osteoarthritis and gait parameters of foot <i>Bojain Lin, Ming-Fa Hsieh</i>	
CP3-3	Effects analysis of the dead space in the nasal mask of the continuous positive airway pressure (CPAP) device <i>ZhenXiao Li, YiFei Zhang, MingChen Ge, ZhiGuo Zhang</i>	
CP3-4	Influence of pillow height on cervical spine alignment: a finite element analysis <i>Duo Wai-Chi Wong, Sicong Ren, Hui Yang, Yan Zhou, Jin Lin, Ming Zhang</i>	
CP3-5	Center of pressure differences in elderly adults with fall risk under a virtual-reality perturbed task <i>Chun-Ju Chang, Jen-Suh Chern, Tsui-Fen Yang, Sai-Wei Yang</i>	
CP4-1	A novel multi-planar external fixator developed for hip distraction <i>Wing Ho Chau, Yuk Sun Cheng, Fuk Tat Mak, Kim Sum Cheung, Ling Qin, Bobby-Kin Wah Ng</i>	

- CP4-2 One step synthesis of fluorescent Gd@C microspheres for magnetic separation of MCF-7 cells  
*Jing Lyu, Changming Cheng, Jingyu Shi, Feng Tian, Mo Yang*
- CP4-3 Photothermal therapy of theranostics released from microspherical delivery vehicle  
*Lin Guo, Li-Wu Zheng, Min Wang*
- CP4-4 A new platform for real-time monitoring of loop-mediated isothermal amplification based on precipitation of peg/carboxyl-modified gold nanoparticles with magnesium pyrophosphate  
*Ailin Qin, Lok Tin Fu, Jacky K.F. Wong, Li Yin Chau, Shea Ping Yip, Thomas M.H. Lee*
- CP4-5 Design of an implantable optogenetic system  
*Fu-Yu Beverly Chen, Louise Parr-Brownlie, Peter Freestone, Daniel McCormick, Simon Malpas, Patrick Hu, David Budgett*
- CP4-6 Helmet array transducer for low intensity ultrasound application  
*Jiaxing Yang, Xianyi Gu, Wu Sun, Wenbin Yan, Juan Zhou, Hairong Zheng, Weibao Qiu*
- CP5-1 Acidic microenvironment-enhanced activation of integrin  $\beta$ 1 contributes to cytoskeletal dynamics and EMT of cancer cells  
*Shun Li, Niya Xiong, Yueting Peng, Hongxia Bai, Yu Chen, Jing Zhang, Hong Yang, Chunhui Wu, Yiyao Liu*
- CP5-2 Role of glypican-1 in endothelial NOS activation under various steady shear stress magnitudes  
*Ye Zeng*
- CP5-3 An integrative approach to precision cancer medicine  
*Su Bin Lim, Swee Jin Tan, Wan-Teck Lim, Chwee Teck Lim*
- CPS2-2 Evaluation of Biomechanical Consequences of Orthosis and Subtalar Arthroereisis in Flatfoot  
*Yan Wang, Qitao Tan, Linwei Chen, Ming Zhang*
- CPS3-1 Epidural Spinal Cord Stimulation along with Bupirone Treatment Improves Forelimb Function in Cervical Spinal Cord Injured Rats  
*Monzurul Alam, Benita Jin, Guillermo Garcia-Alias, Hui Zhong, Roland Roy, Reggie Edgerton*
- CPS5-1 Influence of constraint at end-effector of rehabilitation robot on muscle activation pattern  
*Yali Liu, Linhong Ji*
- CPS5-2 The effect of static vestibular stimulation on maximum bite force generation  
*Chuyao Jian, Wen Zeng, Rong Song, Qianqian Yang, Jie Luo*
- CPS5-3 Effect of music on social isolation-induced autism-like behaviors in mice  
*Xiaoqi Zhu, Youjun Li, Liang Zheng, Chenxi Li, Xiao Che, Shaowen Cheng, Jue Wang*

**Poster**      **Session I**      Core V (Jockey Club Innovation Tower) Podium, 31 Jul, 16:00-16:30  
Mount up 12:30 – 16:00, 31 Jul  
Remove 16:30 – 18:00, 31 Jul; 08:30 – 11:00, 01 Aug

**Track 2, Biomedical Imaging, Signal Processing and Health Informatics**

- P2-1 Wireless real-time monitoring of pH with an organic field-effect transistor based sensor tag and a mobile phone  
*Wei Tang, Qiaofeng Li, Yuanzhe Li, Shi Qiu, Jiaqing Zhao, Yukun Huang, Sujie Chen, and Xiaojun Guo*
- P2-2 Machine learning based image segmentation of intravascular optical coherence tomography images  
*Yuxiang Huang, Zhiyong Li*
- P2-3 Facile synthesis of polymer nanoprobe for fluorescence (FL) and magnetic resonance (MR) dual-modal imaging  
*Wandi Chen, Yi Pan, Changqing Yi*
- P2-4 Quantitative analysis of pet images of the brain with Parkinson's disease  
*Gee Cheng Mun, Tan Shu Mei, Xi Qi Fang, Subramaniam Shangari, Anju M. Raja, Kannathal Natarajan, Parasuraman Padmanabhan, Wang Zhimin, Balázs Gulyás*
- P2-5 Tear classification using textures in shoulder ultrasonography  
*Chung-Ming Lo, Chung-Chien Lee*
- P2-6 Single trial somatosensory evoked potential changes in animal model of cervical myelopathy  
*Hongyan Cui, Guangsheng Li, Jiangbo Pu, Cheng Kang, Hu Yong*
- P2-7 Source analysis of ERP components with visual-somatosensory stimuli  
*Li Feng, Hongyan Cui, Xiaobo Xie, Yong Hu*
- P2-8 Musical training induces structural plasticity in young adults



**PSP5-6** Application of 3D printing technology in orthotic management of adolescent idiopathic scoliosis (AIS)  
*Yangmin Lin, Man-Sang Wong*

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Poster Program – Session II  
01 Aug, 16:00-16:30

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**Poster**      **Session II**      Core V (Jockey Club Innovation Tower) Podium, 01 Aug, 16:00-16:30  
Mount up 12:30 – 16:00, 01 Aug  
Remove 16:30 – 18:00, 01 Aug; 08:30 – 11:00, 02 Aug

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**Track 1 Biomaterials, Tissue Engineering and Regenerative Medicine**

- P1-1** The relationship of parameters on hemostatic ability of fibrin glue in vitro  
*Jing-Wan Luo, Long-Xiang Lin, Ni-Na Liao, Ke-Ke Zhang, Yu-Long Sun*
- P1-2** Low-magnitude high-frequency vibration enhanced osteoporotic fracture healing in presence of sarcopenia – senescence accelerated mouse  
*Ning Zhang, Kwok-Sui Leung, Simon Kwoon-Ho Chow, Wing-Hoi Cheung*
- P1-3** Study of 3D porous titanium implant fabricated by selective laser melting  
*Chao Wang, Yu Chen, Yuanding Huang, Tingting Qin, Yubo Fan*
- P1-4** Involvement of microRNAs for the synergistic targets in ASC-differentiated endothelial and neural lineage cells to prevent hypoxic-ischemic brain injury  
*Chia-Wei Huang, Chia-Ching Wu*
- P1-5** Development of Her-2 antibody-conjugated mesoporous magnetic hydroxyapatite nanocrystals for breast cancer chemohyperthermia  
*Wen-Hsu Lien, Tzu-Wei Wang, His-Chin Wu*
- P1-6** Frequency-domain analysis of sEMG with 45-day of -6° head-down bed rest test  
*Gang Tang, Yide Wang, Dongmei Wang, Xiong Hu*
- P1-7** The relationship between cell cycle and osteogenesis of human dental pulp stem cells under direct electrical stimulation  
*Wei-Wen Hu, Yu-Jyun Chen*
- P1-8** Inhibition of staphylococcus aureus biofilm by a copper-bearing 317L-Cu stainless steel and its corrosion resistance  
*Da Sun, Dake Xu, Chunguang Yang, Jia Chen, M. Babar Shahzad, Ziqing Sun, Jinlong Zhao, Tingyue Gu, Ke Yang, Guixue Wang*
- P1-9** Dual delivery of drug and biomacromolecules from bicomponent tissue engineering scaffolds  
*Yu Zhou, Luoyi Tsai, Min Wang*
- P1-10** Anti-corrosive hydrophobic coating on biodegradable magnesium alloys  
*Fan Wang, Wenting Lin, Yun Lu, Xuenan Gu, Yubo Fan*
- P1-11** Study of FITC/RGD/Dextran/Fe<sub>3</sub>O<sub>4</sub> composite nanoparticles in oral cancer MR image  
*Chao-Ming Su, Yong-Cing Chan, Tzong-Rong Ger*
- P1-12** Effects of different positions of SMILE surgery's intraocular ienticular on corneal deformation in rabbits  
*Di Zhang, Haixia Zhang, Lin Li*
- P1-13** Biodegradability of a silicon-substituted biphasic calcium phosphate  
*Dan-Jae Lin, Ya-Jing Huang, Lih-Jyh Fuh*
- P1-14** Mechanical analysis of different unit cells for porous implant  
*Jian Li, Honglun Su, Yubo Fan*
- P1-15** Synthesis of pH responsive magnetic micelles drug carrier for anti-inflammation study  
*Tzong-Rong Ger, Yin-Chou Huang, Chao-Ming Su*

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**Poster**      **Session II**      Core V (Jockey Club Innovation Tower) Podium, 01 Aug, 16:00-16:30  
Mount up 12:30 – 16:00, 01 Aug

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Remove 16:30 – 18:00, 01 Aug; 08:30 – 11:00, 02 Aug

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**Track 3, Biomechanics, Sports Medicine and Rehabilitation**

- P3-1** Contact pressure measurement of mouse and wrist during mouse operation with Tekscan  
*Xu-Shu Zhang, Yuan Guo, Mei-wen An, Ming Zhang*
- P3-2** Pressure evaluation of different sitting assistive devices  
*Chun-Ting Li, Yen-Nien Chen, Yen-Ting Tseng, Teng-Fu Chang, Kuen-Horng Tsai*
- P3-3** Load and dynamic characteristic of the lumbosacral spine during getting up: experiment and finite element research based on optimized L1-S1 motion segment  
*Han Zhang, Weiping Zhu*
- P3-4** Which determinants predict patellofemoral osteoarthritis after anterior cruciate ligament reconstruction? A narrative literature review  
*W.H. Huang, K.M. Mok, Y.C. Chan, P.W. Fung, S.C. Fu, P.S.H. Yung, K.M. Chan*
- P3-5** Fingertip center-of-pressure distribution during stable precision grip with perturbed tactile sensation  
*Ke Li, Na Wei, Shouwei Yue*
- P3-6** Computational analysis of left ventricular vortex during diastolic phase of heart failure patient  
*Kaiyun Gu, Yu Chang, Bin Gao, Yi Zeng*
- P3-7** Treadmill exercise with different additional weight-bearings in the growing rats may change the morphology of articular cartilage and microstructure of subchondral bone  
*Jiazi Gao, He Gong, Juang Fang*
- P3-8** Effects of abnormal smooth muscle distribution and orientation on the mechanical behavior of airway wall - numerical study  
*Xiaohao Shi, Shengye Zhou, Linhong Deng*
- P3-9** Effect of temperature on the mechanical properties of collagen molecule: a computational study using molecular dynamics  
*Ian Ian Ng, Shu Wei Chang, Hsiang Ho Chen*
- P3-10** A study on the mechanical and permeable property of 3d porous hierarchical bone scaffold  
*Ce Chen, Qiang Chen*
- P3-11** Personalization of the lumped parameter model of coronary artery  
*Bao Li, Wenxing Wang, Xi Zhao, Youjun Liu, Zhou Zhao*
- P3-12** Kinematics analysis of ACL-deficient patients through a stair descending task: A clinical application of a portable motion-analysis system  
*Kam-Ming Mok, Jonas Pui-Wa Fung, Ivy Yan-Chi Chan, Xi Li, Sai-Chuen Fu, Kai-Ming Chan, Patrick Shu-Hang Yung*
- P3-13** Developing transmission line equations of arterial oxygen transport  
*Fei Yan, Wen-Tao Jiang, Zhi-Hong Zhou, Qing-Yuan Wang, Yubo Fan, Ming Zhang*
- P3-14** Effects of wearing flip-flops on lower limb muscle activity and joint loading  
*Tony Lin-Wei Chen, Zhi Xu, Duo Wai-Chi Wong, Qitao Tan, Yan Wang, Ming Zhang*
- P3-15** A new electrolarynx with F0 control based on capacitive touch technology  
*Li Wang, Zhaopeng Qian, Yijun Feng, Ze Yang, Haijun Niu, Huiyu Han, Yubo Fan*
- P3-16** Variations of blood flow in human coronary arteries during EECF treatment  
*Hongdai Sun, Yawei Wang, Yubo Fan*
- P3-17** The effect of performing exercise with a novel stair-climber on back and abdominal muscles  
*I-Fang Cheng, Ting-Yu Lin, Chien-Ju Lin, Hsiao-Feng Chieh, Yu-Lin You, Li-Chieh Kuo, Fong-Chin Su*
- P3-18** Development of algorithm for decomposing ground reaction force during gait on a single force plate  
*W.Y Su, C.W. Yen, L.I. Wu, L.Y. Guo*
- P3-19** Biomechanical study on treatment of thoracolumbar burst fractures with transvertebral screw fixation and long-segment posterior fixation  
*Baoping Pei, Wei Wang, Zhenpeng Shi, Zhenyao Liu*
- P3-20** Para-spinal muscle stiffness distribution of scoliosis subjects in standing posture  
*Lok-Kan Cheng, Yongping Zheng*
- P3-21** Effect of the semi-customized insoles on postural balance control ability for subjects with the adolescent idiopathic scoliosis  
*Fan-Chih Kuo, Sai-Wei Yang, Keh-Tao Liu, Tsung-Hsin Chen*

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- P3-22** The discussion of static balance for idiopathic scoliotic patients  
*Yi-Ju Lu, Fan-Chih Kuo, Sai-Wei Yang*
- P3-23** Effects analysis of the dead space in the nasal mask of the continuous positive airway pressure (CPAP) device  
*ZhenXiao Li, YiFei Zhang, MingChen Ge, ZhiGuo Zhang*
- P3-24** Local and global-mode investigation on dental implant osseointegration analysis for bone-block and mandible models  
*Trinh Minh Cong, Min-Chun Pan, Ru-Zhen Mou, Chin-Sung Chen*
- P3-25** FEA in fixation of femoral neck fracture: should thread of screws be added into the simulation?  
*Shi Zhan, Hai Hu, Ming Ni, Ming Ling*
- P3-26** Research on the bone targeted remodeling induced by athletic fatigue damage in the rat ulna  
*Hao Li, Rui-Xin Li, Biao Han, Shu-Ping Wei, Xi-Zheng Zhang*
- P3-27** Effects of periodic dynamic loading, CKIP-1 gene knockout and combination stimulations in counteracting microgravity-induced bone loss potential via Wnt signaling pathway  
*Biao Han, Xin-Chang Zhang, Yu Li, Hao Li, Rui-Xin Li, Xi-Zheng Zhang*
- P3-28** Icariin affect apoptosis and cytoskeleton osteoblasts exposed overload  
*Yingjie Liu, Ruixin Li, Hao Li, Yunqiang Xu, Xizheng Zhang*
- P3-29** Research on human motion of knee joint motion based on motion capture technology  
*Run Ji, Chunjing Tao, Zhaojing Zhang, Shicai Li, Yubo Fan*
- P3-30** Use of an osteoblast overload damage model to probe the effect of icariin on the proliferation, differentiation and mineralization of MC3T3-E1 cells through the Wnt/ $\beta$ -catenin signalling pathway  
*Ruixin Li, Yingjie Liu, Hao Li, Yunqiang Xu, Xizheng Zhang*
- P3-31** ZFP580 promotes ATRA-induced vascular smooth muscle cells differentiation by RAR $\alpha$ -mediated PI3K/Akt and ERK signalling  
*Shuping Wei, Jingjing Zhang, Xizheng Zhang, Wencheng Zhang*
- P3-32** Numerical model to predict contact pressure of sportswear on moving human leg  
*Yinglei Lin, Yi Li, Junyan Hu, Yueping Guo, Ming Zhang, Guoru Zhao*
- P3-33** Kinematics and kinetics analysis of inter-joint coordination in different walking velocities of able-bodied person  
*Zhi Xu, Duo Wai-Chi Wong, Ming Zhang, Wentao Jiang*

**Poster**      **Session II**      Core V (Jockey Club Innovation Tower) Podium, 01 Aug, 16:00-16:30  
Mount up 12:30 - 16:00, 01 Aug  
Remove 16:30 - 18:00, 01 Aug; 08:30 - 11:00, 02 Aug

**Track 4, Biosensors, Bionanotechnology and Medical Devices**

- P4-1** Ultrasmall luminescent metal-organic frameworks  
*Changming Cheng, Jing Lyu, Jiu Hai Wang, Mo Yang*
- P4-2** Glucose detection by spectrophotometry  
*Fang-Chuan Huang, Tai-Ping Sun, Chin-Sung Hsiao, Yu-Hsiang Tung, Congo Tak-Shing Ching*
- P4-3** Graphene oxide-hemin composite based impedimetric biosensor for bacteria-related DNA detection  
*Feng Tian, Jingyu Shi, Jing Lyu, Oudenggerile, Changming Cheng, Jiu Hai Wang, Yadi Fan, Mo Yang*
- P4-4** Experiments study on sclerosing foam stability  
*Tao-Ping Bai, Wu Zhao, Wen-Tao Jiang*
- P4-5** Improved sensitivity of lateral flow assay using sponge for HBV nucleic acid detection  
*Ruihua Tang, Hui Yang, Jing Li, Dasen Xu*
- P4-6** Re-calibration of implanted pressure sensors  
*D. Leung, D. McCormick, S. Malpas, D. Budgett*
- P4-7** Repeatable adsorption of bovine serum albumin on magnetic nanoparticles in microfluidics device  
*Yu-Chi Kuo, Chao-Ming Su, Tzong-Rong Ger*
- P4-8** Exploiting the protein corona around gold nanorods for multimodal cancer therapy

- P4-9** Eugenia Yeo, Joshua Cheah, Bing Yi Lim, Patricia Thong, Khee Chee Soo, James Chen Yong Kah  
The novel active safety device to prevent sudden infant death syndrome  
*Ji-Jer Huang, Teng-Yue Huang, En-Chuan Lio*
- P4-10** Shear stress-declined RhoGDI $\alpha$ -Rho GTPases complex affinity in living HeLa is visualized by a constructed-FRET biosensor  
*Shuai Shao, Fei Xie, Xue Liu, Xiaoling Liao, Bo Liu*
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**Poster Session II** Core V (Jockey Club Innovation Tower) Podium, 01 Aug, 16:00-16:30  
Mount up 12:30 – 16:00, 01 Aug  
Remove 16:30 – 18:00, 01 Aug; 08:30 – 11:00, 02 Aug

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**Track 5, Cellular, Genomic and Biomolecular Engineering**

- P5-1** The role of LncRNA in spontaneously hypertensive rats and the mechanobiological mechanism  
*Qingping Yao, Jiting Liu, Yingxin Qi, Zonglai Jiang*
- P5-2** miR-142-3p from platelet-derived microparticles modulates proliferation and apoptosis of endothelial cells during hypertension  
*Han Bao, Kai Huang, Zong-Lai Jiang, Ying-Xin Qi*
- P5-3** Compare the interaction of VWF-A3A1 and VWF-A3 collagen by molecular dynamics simulation  
*Zhilong Ning, Ying Fang, Jianhua Wu*
- P5-4** Effect of mechano-growth factor on tenocyte migration and its involved molecular mechanism  
*Bingyu Zhang, Qing Luo, Yang Ju, Guanbin Song*
- P5-5** Effect of MAPK on low shear stress-induced expression of fractalkine in endothelial cells  
*Amanguli Ruze, Yiwei Zhao, Hui Li, Xiayimaidan Gulireba, Jiang Wu, Xin Zhao, Yongmei Nie*
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