

22nd MDDBS-15th BHE Technical Programme (Final)

The zoom link for presentations and attending the conference: <https://cuhk.zoom.us/j/93274506970>

20 November, 2024 (Hybrid)		
Time	Speakers	Titles and Affiliations
Opening Ceremony (Chair: Fa WANG 王法)		
09:00 - 09:18	May WANG 王冬梅	Georgia Institute of Technology Vice President for Conferences of IEEE Engineering in Medicine and Biology Society
	Jinghui LU 卢景辉	President of Guangdong Medical University
	Tao SONG 宋涛	Chairman of Dongguan Biotechnology Industry Association and Dongguan Biotech Industry Development Co.,Ltd
	Yuanting ZHANG 张元亭	The Chinese University of Hong Kong Conference Chair
09:18 - 09:20	Group Photo Session	
Plenary Session (Chair: Yuanting ZHANG 张元亭)		
09:20 - 09:55	Zhanfeng CUI 崔占峰	“Molecular Diagnostics for Point of Care Testing (POCT)” University of Oxford
09:55 - 10:30	Yong ZHANG 张勇	“Engineered Materials and Devices for Enhanced Light-based Therapy” City University of Hong Kong
10:30 - 10:45	Tea / Coffee Break	
Keynote Session (Chair: Ting MA 马婷)		
10:45 - 11:10	Fa WANG 王法	“General Purpose vs Special Purpose: the System-on-chip of Wearable Device in Industry World” Shanghai United Imaging Healthcare Co., LTD
11:10 - 11:35	Geng YANG 杨赓	“Robot Tactile Perception: Enhancing a Safer Human-Robot Interaction” Zhejiang University
11:35 - 12:00	Fei CHEN 陈霏	“Temporal Characterization and Analysis of Photoplethysmography (PPG) Signal” Southern University of Science and Technology
12:00 - 14:00	Lunch Break	
Special Session (Chair: Xiaorong DING 丁晓蓉)		
14:00 - 14:25	Fen MIAO 苗芬	“Cuffless Blood Pressure Measurement: Large Models vs. Small Models” University of Electronic Science and Technology of China
14:25 - 14:50	Lisheng XU 徐礼胜	“New Technology for Integrated Non-invasive Intelligent Diagnosis, Treatment and Rehabilitation of Cardiovascular System” Northeastern University
14:50 - 15:15	Yali ZHENG 郑亚莉	“Cuffless and Continuous Blood Pressure Monitoring Under Dynamic Conditions” Shenzhen Technology University
Plenary Session (Chair: David CLIFTON, Yuanting ZHANG 张元亭)		
15:15 - 15:50	Alison NOBLE	“Leveraging AI to Simplify Ultrasound” University of Oxford
15:50 - 16:00	Tea / Coffee Break	
Special Session (Chair: Xiaorong DING 丁晓蓉)		
16:00 - 16:25	Nan JI 纪楠	“Objective Performance Evaluation of Wearable, Cuffless Blood Pressure Measuring Devices: Insights from IEEE Std 1708” The Chinese University of Hong Kong
16:25 - 16:50	Yiming ZHANG 张一鸣	“AI-Empowered Personalization: Tracking Blood Pressure Trends with Single-Channel PPG” The Chinese University of Hong Kong
16:50 - 17:15	Hanjie CHEN 陈翰杰	“An Auto-calibration System for Long-term Cuffless BP Measurement Using Cross-modal Knowledge Distillation” Hong Kong Centre for Cerebro-cardiovascular Health Engineering
17:15 - 17:40	Xiaoman XING 邢晓曼	“Towards More Reliable Blood Pressure Estimation Using Physiological Backbones” Suzhou Institute of Biomedical Engineering and Technology, Chinese Academy of Sciences

21 November, 2024 (By zoom: <https://cuhk.zoom.us/j/93274506970>)

Keynote Session (Chair: Fei CHEN 陈霏)		
09:00 - 09:25	Paolo BONATO	“Digital Health and Machine Learning Techniques to Enable Precision Rehabilitation Interventions” Spaulding Rehabilitation Hospital, Harvard Medical School, Boston, USA

Special Session (Chair: Xiaorong DING 丁晓蓉)		
09:25 - 09:45	Zhan SHEN 申展	"Uncertainty Quantification of Cuffless Blood Pressure Estimation Model" City University of Hong Kong
09:45 - 10:10	Ming HUANG 黄铭	"Limitations of Cuffless Blood Pressure Estimation During Exercise by Linear Models" Shenzhen Institutes of Advanced Technology (SIAT), Chinese Academy of Sciences
10:10 - 10:35	YeLei LI 李叶磊	"Continuous Blood Pressure Monitoring and Hypertension Risk Screening Using Smart Watch" OPPO Health
10:35 - 10:55	Ting XIANG 向婷	"A Novel Multimodal Physiological Model for the Noninvasive and Continuous Measurements of Arterial Blood Pressure" City University of Hong Kong
10:55 - 11:15	Zijun LIU 刘梓君	"A Novel Photo-electro-mechano Sensing Array for the Visualization and Estimation of Tonoarteriogram" City University of Hong Kong
11:15 - 11:40	Kaan Sel	"Physics-informed Neural Networks for Modeling Physiological Time Series for Cuffless Blood Pressure Estimation" Massachusetts Institute of Technology
11:40 - 12:05	Alberto AVOLIO	"Cuffless Blood Pressure: Challenges Presented by Physiology and the Elusive Nature of 'Measurement'" Macquarie University
Keynote Session (Chair: Xiaorong DING 丁晓蓉)		
12:05 - 12:30	Chenjie XU 徐臣杰	"Cryomicroneedles for Intradermal Cell Delivery in Immunotherapy" City University of Hong Kong
12:30 - 14:00	Lunch Break	
Keynote Session (Chair: Ting MA 马婷)		
14:00 - 14:25	Wei CHEN 陈炜	"Smart Sensor Systems and Health Informatics" The University of Sydney
14:25 - 14:50	Sio Hang PUN 潘少恒	"Real-time Multi-channel Neural Signal Compression System" University of Macau
14:50 - 15:15	Ting MA 马婷	"From Computing Neuroimage Marks to Neuroinformatics Pre-training" Harbin Institute of Technology (Shenzhen)
15:15 - 15:40	Tingrui PAN 潘挺睿	University of Science and Technology of China
15:40 - 16:05	Ni ZHAO 赵妮	"Wearable Sensing Technologies for Cardiovascular Monitoring" The Chinese University of Hong Kong
16:05 - 16:30	Ye LI 李焯	"AI + Wearable Signals for Mental Health Monitoring and Computation" Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences
Plenary Session (Chair: Ni ZHAO 赵妮)		
16:30 - 17:05	David CLIFTON	"AI in Health" University of Oxford

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Keynote Session (Chair: Ting MA 马婷)		
09:00 - 09:25	Quan ZHANG	"Multimodality Noninvasive Continuous Blood Pressure Monitoring" Massachusetts General Hospital, Harvard Medical School, Boston, USA
09:25 - 09:50	Ho Man CHAN 陈皓敏	"Blood Pressure Estimation from Wearable Data: Demographic Fairness and Generalization" City University of Hong Kong
09:50 - 10:15	Shaun ZHAO 赵祎鑫	"Consolidate the Digital and Intelligent Healthcare Foundation for an Inclusive Future" HUAWEI TECHNOLOGIES CO., LTD.
Invited Talks (Chair: Bing FU 傅冰, Nan JI 纪楠)		
10:15 - 10:40	Bing FU 傅冰	"High Resolution Fluorescence Imaging in Live Microbes for Health and Energy" City University of Hong Kong
10:40 - 11:05	Qinrong ZHANG 张沁榕	"High-resolution Imaging of the Mouse Brain and Eye in vivo" City University of Hong Kong
11:05 - 11:25	Xiaorong DING 丁晓蓉	"Deciphering the Causal Relationships Between Photoplethysmogram and Blood Pressure" University of Electronic Science and Technology of China
11:25 - 11:45	Xiaoling HU 胡晓翎	"Mobile Exoneuromusculoskeletons for Telerehabilitation Poststroke" The Hong Kong Polytechnic University
11:45 - 13:40	Lunch Break	
Invited Talks (Chair: Lin LIN 林林)		

13:40 - 14:00	Can CHENG 程灿	"Study on Mechanical Properties of Cardiomyocytes Based on Nanotechnology" AICARE Bay Lab at Guangdong Medical University
14:00 - 14:20	Shaocan FAN 范绍灿	"Research on Vital Signs Monitoring Technology and Application of Millimeter-wave Radar" AICARE Bay Lab at Guangdong Medical University
14:20 - 14:40	Lei ZHAO 赵磊	"Research on Key Technologies of Multimodal Image-guided Disc Ablation Navigation" AICARE Bay Lab at Guangdong Medical University
14:40 - 15:00	Xiongfeng ZHU 朱雄峰	"Research on Disease Classification and Posture Assessment for Chest Radiographs" AICARE Bay Lab at Guangdong Medical University
Plenary Session & Closing Remarks (Chair: Lin LIN 林林, Yuanting ZHANG 张元亭)		
15:00 - 15:35	Dimitrios I. FOTIADIS	"Advanced AI-based Risk Stratification Models Pioneering Integrative Management of Cardiotoxicity in Elderly Breast Cancer Patients" University of Ioannina & FORTH
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