ICBEB 2026

The 15th International Conference on Biomedical Engineering and Biotechnology

November 7-9, 2026 | Hong Kong

Conference Program

香港都會大學
科技學院
Hong Kong Metropolitan University
School of Science and Technology

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Part I Conference Committee

Conference Honorary Co-Chair

Prof. Kevin King Fai HUNG, Hong Kong Metropolitan University, Hong Kong SAR, China

Conference General Chair

Prof. Eddie Yin-Kwee NG, Ph.D., FAESS [SG], FEUSA & FEASA [EU], FAIMBE, FASME & FNAT [USA], FIET [UK], FAIIA, FAPTSA & FIETI [HK], DFIDSAI & MCAAI [CN], Nanyang Technological University, Singapore

Technical Program Committee Chair

Prof. Chengyu Liu, School of Instrument Science and Engineering, Southeast University, China

Technical Program Committee Co-Chairs

Dr. William C. CHO, Queen Elizabeth Hospital, Hong Kong SAR, China
Prof. Simon James Fong, Data Analytics and Collaborative Computing Laboratory, University of Macau, Macao SAR, China
Prof. Qun Wei, Department of Biomedical Engineering, School of Medicine, Keimyung University, Republic of Korea

International Technical Program Committee*

Dr. MohammadAli Ahmadipour, Deakin University, Australia
Prof. Larbi Boubchir, University of Paris 8, France
Dr. Selim Bozkurt, Institute of Cardiovascular Science, University College London, UK
Assoc. Prof. Dongwei Chen, Science and Technology Development Department, Zhuhai People's Hospital, China
Dr. Mengcun Chen, Center for Translational Medicine at Thomas Jefferson University, USA, and the Department of Orthopedics at Wuhan Union Hospital, China
Assoc. Prof. Fernanda Coutinho, Polytechnic University of Coimbra, Portugal
Dr. Chelli Devi, School of Electronics Engineering, VIT University, India
Prof. Paula Alexandra Martins De Olive, Department of Veterinary Sciences, University of Trás-os-Montes and Alto Douro, Portugal
Prof. Damjan Glavač, Center for Human Genetics & Pharmacogenomics, Faculty of Medicine, University of Maribor, Slovenia
Assoc. Prof. Evgin Goceri, Biomedical Engineering Department, Akdeniz University, Turkey
Assoc. Prof. Luis Gómez, University of Las Palmas de Gran Canaria, Spain
Dr. Ildar Khasanov, Department of Biomedical Engineering and Artificial Intelligence in Biotechnical Systems, Institute of Artificial Intelligence, Robotics, and Systems Engineering (AIRSE), Kazan Federal University, Russia
Prof. Gordon Klein, Department of Orthopaedic Surgery and Rehabilitation, University of Texas Medical Branch at Galveston, USA
Prof. Jing-Huei Lee, Department of Biomedical Engineering, College of Engineering and Applied Science, University of Cincinnati, USA
Assoc. Prof. Jie Li, School of Computer Science and Technology, Harbin Institute of Technology, China
Assoc. Prof. Manjunath K N, Manipal Institute of Technology, India
Prof. António Miguel Morgado, Department of Physics, University of Coimbra, Portugal

Dr. Igor V. Petukhov, Volga State University of Technology, Yoshkar-Ola, Russia
Prof. Maria Prados-Privado, Department of Continuum Mechanics and Structural Analysis, Universidad Carlos III de Madrid, Spain
Prof. E. Priya, Department of ECE, Sri Sairam Engineering College, India
Prof. Essam Rashed, Graduate School of Information Science, University of Hyogo, Japan
Assoc. Prof. Kangning Ren, Department of Chemistry, Hong Kong Baptist University, China
Dr. Bruno Rizzuti, Institute of Nanotechnology, National Research Council, Italy
Dr. Monjoy Saha, School of Medicine, Emory University, USA
Dr. Andrea Scribante, Section of Dentistry, Department of Clinical, Surgical, Diagnostic and Paediatric Sciences, University of Pavia, Italy
Prof. Franz E. Weber, Oral Biotechnology & Bioengineering, Center for Dental Medicine, University of Zurich, Switzerland
Dr. Fuming Yang, Department of Neurosurgery, Shanghai General Hospital, Shanghai Jiao Tong University, School of Medicine, Shanghai, China
Prof. Xufeng Yao, Shanghai University of Medicine and Health Sciences, China
Dr. Ching Yee Yong, University College of Technology Sarawak, Malaysia
Prof. Yudong Zhang, Department of Informatics, University of Leicester, UK
Dr. Ruzhang Zhao, Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health, USA
Prof. Fengfeng Zhou, BioKnow Health Informatics Lab, College of Computer Science and Technology, Jilin University, China

*List in alphabetical order by Last Name from A to Z.

Part II Conference Schedule Summary

Saturday November 7, 2026

Time	Activity
14:00-18:00	Registration

Sunday November 8, 2026

Time	Activity
09:00-09:05	Opening Remarks
09:05-09:40	Keynote Speech 1
09:40-10:15	Keynote Speech 2
10:15-10:25	**Group Photo**
10:25-11:05	Coffee Break **Poster Presentations**
11:05-11:40	Keynote Speech 3
11:40-12:15	Keynote Speech 4
12:15-14:00	Lunch Break
14:00-18:10	Parallel Invited & Oral Sessions 1
14:00-17:45	Parallel Invited & Oral Sessions 2

Monday November 9, 2026

Time	Activity
09:00-11:50	Invited & Oral Session 3
11:50-14:00	Lunch Break
14:00-17:15	Invited & Oral Session 4
17:15-18:00	Short Break
18:00-20:30	Guest Arrival Closing Remarks Award Ceremony Banquet (Dinner)

Part III Conference Program in Details

DAY 1 | November 7, 2026

Location: Meeting Room 24, 2/F, Building 10W, Hong Kong Science Park

14:00-18:00	**Registration**

Note for registration:

* Please show us your name or abstract / paper number for registration.
* Please pick up all the conference materials at the registration desk (Name Tag, Conference Program, Dinner Card/Ticket etc.).

DAY 2 | November 8, 2026

Location: Conference Hall 04-06, 2/F, Building 10W, Hong Kong Science Park

Morning Session | Chair:

Prof. Kevin King Fai HUNG, Hong Kong Metropolitan University, Hong Kong SAR, China

09:00-09:05	**Opening Remarks** **Conference Honorary Co-Chair: Prof. Kevin King Fai HUNG,** Hong Kong Metropolitan University, Hong Kong SAR, China	
09:05-09:40	**Keynote Speech 1:** Metasense: Wearable Photoplethysmographic Biomarker Platform for Cardiometabolic Disease Surrogate Identification and Clinical Licensing **Prof. Eddie Yin-Kwee NG,** Nanyang Technological University, Singapore	
09:40-10:15	**Keynote Speech 2:** Translational Application of Cancer Biomarkers and Beyond **Dr. William C. CHO,** Queen Elizabeth Hospital, Hong Kong SAR, China	
10:15-10:25	**GROUP PHOTO**	**@ Pak Shek Kok Promenade**
10:25-11:05	**COFFEE BREAK** **Poster Presentations**	**@ Conference Hall 06** **@ Conference Hall 06**
11:05-11:40	**Keynote Speech 3:** Latest Clinical Advances in the Application of New ECG Technologies and ECG-Based AI **Prof. Chengyu Liu,** Southeast University, China	
11:40-12:15	**Keynote Speech 4:** Engineering the Hand: From Biomechanics to Clinical Innovation **Prof. Zong-Ming Li,** Shenzhen University of Advanced Technology, China	
12:15-14:00	**LUNCH BREAK**	

List of Poster Presentations

Conference Hall 06 | 10:25-11:05

BEB8173: Comparative Performance Evaluation of Five State-of-the-Art Large Language Models in Taiwanese Radiation Safety Certification Examinations
Dr. Ryan Chou Jui Hsiang, Hong Kong Metropolitan University, Hong Kong SAR, China

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BEB8178: In Vitro Validation of Image Decoding from Cortical Voltage-Sensitive Dye Responses Evoked by Retinal Neuromorphic Intracortical Microstimulation
Prof. Yuki Hayashida, Mie University, Japan

BEB8193: Biomedical Simulation & Benchtop Prototype of a Multi-Sensor Temperature-Sensing Endotracheal Tube for Detecting Mispositioning in Neonates
Mr. Abhishek Sriram, Independent Researcher, USA

BEB8207: Anti-Melanogenic Capability of Fresh Date Palm Extract against UVA-Irradiated B16F10 Melanocytes
Mr. Krit Kaewmala, Srinakharinwirot University, Thailand

BEB8213: Photoprotective and Antioxidant Effects of Phyllanthus acidus Fruit Extract against UVA-Induced Oxidative Stress and Melanogenesis in B16F10 Cells
Ms. Rinradi Dangsakul, Srinakharinwirot University, Thailand

BEB8218: Inhibitory Effects of Coccinia grandis Leaf Extract on α-MSH-Induced Melanogenesis and LPS-Induced Nitric Oxide Production
Ms. Metaphon Yansangworachai, Srinakharinwirot University, Thailand

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BEB8230: Analysis of Pain Trajectory and Related Influencing Factors in Elderly Patients Undergoing Abdominal Surgery
Dr. Weina Li, The Affiliated Hospital of Xuzhou Medical University, China

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BEB8231: Application Analysis of Resistance Exercise Combined with Personalized Nutrition Intervention for Postoperative Emotional and Physical Recovery
Dr. Jing Li, The Affiliated Hospital of Xuzhou Medical University, China

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BEB8314: Artificial Intelligence-Enhanced 3 Tesla Magnetic Resonance Imaging for Precision Veterinary Medicine: An Integrated Clinical, Operational and Health Technology Assessment Framework
Mr. Andres Moron Mendoza, Universidad Autónoma Metropolitana Iztapalapa, Mexico

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BEB8315: Artificial Intelligence-Driven 3 Tesla Magnetic Resonance Imaging Ecosystem: An Integrated Framework for Clinical Data Management, Research Productivity, and Operational Excellence
Mr. Andres Moron Mendoza, Universidad Autónoma Metropolitana Iztapalapa, Mexico

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BEB8324: MCEMP1-mediated Mast Cell-Epithelial Crosstalk Drives Gastric Precancerous Progression via the FcγRI Pathway: A Diagnostic and Therapeutic Target for Chronic Atrophic Gastritis
Dr. Hongzheng Li, University of British Columbia, Canada

BEB8327: Geometry-Hemodynamics Relationships in the Vertebral Artery V1 Segment: A Patient-Specific CFD and Multivariable Analysis
Dr. Chang Liu, Beihang University, China

BEB8360: Evaluation of Multilayer Designs for Stable Wearable Biosensors
Dr. Linda Shi, University of California, San Diego, USA

BEB8362: A Scalable Microarray Chip-Based Microphysiological System for Functional Evaluation and Screening of Tumor Immune Interactions in Patient-Derived Lung Cancer Organoids

Ms. Jiwen Fan, West China Hospital, Sichuan University, China

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BEB8397: Ambient PM2.5 and Hypertension Prevalence across Contiguous U.S. Communities in the NIH All of Us Research Program

Ms. Meichen Pan & Ms. Qing Zhong, University of California, San Diego, USA

BEB8416: From Bus Seats to Elder Care: A Low-Cost Recycled Chair with COP-Based Posture Feedback

Ms. Riti Proma Saha & Ms. Aimen Qaiser Sheikh, The Hong Kong Polytechnic University, Hong Kong SAR, China

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BEB8417: Investigating ANO1 Inhibition as a Therapeutic Strategy for NSCLC and Prostate Cancer: Insights from PIC (PI3K Inhibitor) Study

Asst. Prof. Yohan Seo, Dongguk University College of Medicine, South Korea

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BEB8418: Development of a Lateral Flow Biosensor Coupled with Dual-Labeled RT-LAMP for Rapid Detection of Norovirus GII.4

Mr. Woo Sang Yu, Chung-Ang University, South Korea

BEB8419: Seeding Density-Dependent Divergence Between Impedance-Based Cell Index and Image-Based Confluency in Human Bronchial Epithelial Cells

Ms. Arwen Fu, University of California, San Diego, USA

BEB8420: Magnetic Sample Preparation and Fluorescence Detection of Residual Medroxyprogesterone Acetate in Food Using Peptide-Functionalized Magnetic Nanoparticles

Ms. Kyora Rim, Chung-Ang University, South Korea

BEB8422: A Dual-Sensor Wearable Device Combining Phonocardiography and Sensor Orientation for Auscultation Site Identification in Home Monitoring of Valvular Heart Disease

Ms. Jihyeon Kim, Keimyung University, South Korea

Invited & Oral Session 1: Nanomedicine and Immunotherapy Conference Hall 04-05 | 14:00-18:10	
Session Chair:	**Dr. William C. CHO,** Queen Elizabeth Hospital, Hong Kong SAR, China
14:00-14:20	**Invited Speech BEB8408:** Absent Proper Cell-to-Cell Signaling as the Driver of Prostate Cancer Development and Disease Progression **Assoc. Prof. Alvin Y. Liu,** University of Washington, USA
14:20-14:40	**Invited Speech BEB8272:** Engineered Immune Cells and Molecules for Cancer Therapy **Prof. Qi Zhao,** University of Macau, Macao SAR, China
14:40-14:55	**Invited Speech BEB8155:** Spatiotemporally Programmed Probiotic Vaccines Potentiate the Efficacy of Single-Epitope Neoantigen Immunotherapy for Solid Tumors **Prof. Fanyan Meng**, Nanjing Drum Tower Hospital Clinical College of Traditional Chinese and Western Medicine Nanjing University of Chinese Medicine, China
14:55-15:10	**BEB8331:** Synergistic Effects of Modified Zinc Oxide Nanoparticle in a Hybrid Chitosan-Gelatin Hydrogel for Bone Regeneration **Dr. Esensil Man Hia,** Jeonbuk National University, South Korea
15:10-15:25	**BEB8238:** Mechanisms of imatinib mesylate Induced Apoptosis of Primary T Cells **Dr. Xiaohua Chen,** Shaoguan University, China
15:25-15:40	**BEB8180:** Epigenetic Reprogramming via Subtype-Selective HDAC Inhibitor Chidamide to Overcome Immunotherapy Resistance: Mechanisms and Clinical Implications **Dr. Xianping Lu,** Shenzhen Chipscreen Biosciences Co., Ltd, China
15:40-15:55	**BEB8203:** Self-Navigated NIR-II Thermophoretic Liposome Nanomotors for Directed Tumor Delivery and Enhanced Chemotherapy **Ms. Qing Hu,** Southeast University, China
15:55-16:15	**COFFEE BREAK**
16:15-16:35	**Invited Speech BEB8386:** Bioengineering of Exosomes for Targeted Immunotherapy **Assoc. Prof. Yong (Tiger) Zhang,** University of Southern California, USA
16:35-16:55	**Invited Speech BEB8328:** Harnessing Adipocyte-Derived Exosomal miR-5099 as a Targeted Biotherapeutic to Reprogram Macrophages and Ameliorate Metabolic Inflammation **Asst. Prof. Li Wang,** University of Macau, Macao SAR, China
16:55-17:10	**Invited Speech BEB8388:** Intracellular Magnetic Hyperthermia for Treatment of Hepatocellular Carcinoma **Prof. Xiaoli Liu,** First Affiliated Hospital of Xi'an Jiaotong University, China
17:10-17:25	**BEB8154:** Spatiotemporally Coupled in Situ Nanovaccine Potentiates CAR-T Cell Therapy for Solid Tumors **Dr. Chenyue Xu,** Nanjing Drum Tower Hospital Clinical College of Traditional Chinese and Western Medicine Nanjing University of Chinese Medicine, China
17:25-17:40	**BEB8329:** Dual-Functional Nanotherapeutics: A Novel Approach to siRNA-Mediated TNF-α Silencing in Inflammatory Bowel Disease **Ms. Li Qiao,** Southeast University, China

17:40-17:55	**BEB8376:** Synergistic Optimization Delivers Titer and Timeline Improvement for BsAb and AAV Manufacturing **Ms. Dan San,** Merck Life Science, China
17:55-18:10	**Invited Speech BEB8426:** Development and Characterization of Dual Drug Loaded Polymeric Nanofibers Containing Cyclosporine A and Posaconazole for Potential Application Following Corneal Transplantation **Prof. Ebru Başaran,** Anadolu University, Turkey

Invited & Oral Session 2: Biosensors, Microfluidics & Cell/Molecular Assays **Conference Hall 06 | 14:00-17:45**	
Session Chair:	**Dr. Linda Shi,** University of California, San Diego, USA
14:00-14:20	**Invited Speech BEB8396:** Extraction of Tea Catechins and Practical Applications of Them Prof. Yukihiko Hara, Tea Solutions, Hara Office Inc., Japan
14:20-14:35	**S-BEB8421:** Real-Time Analysis of Sparin Neo Effects on H_2O_2-Induced Cell Death in Primary Mouse Skin Fibroblasts **Dr. Linda Shi & Ms. Yining Ding,** University of California, San Diego, USA
14:35-14:50	**BEB8353:** WhelkChip: A Spiral Microfluidic Platform for Multicellular Liver Tumor Microenvironment Reconstruction and Therapeutic Response Evaluation **Ms. Shi-Qi Chang,** Southeast University, China
14:50-15:05	**BEB8227:** Protective Effects of an Ethanol Extract of Uvaria rufa Fruits against tert-Butyl Hydroperoxide – Induced Oxidative Stress in Human Keratinocytes **Ms. Sarunthorn Japakasetr,** Srinakharinwirot University, Thailand
15:05-15:20	**S-BEB8357:** Real-Time Evaluation of the Effects of Bisphenol A on Human Cerebral Microvascular Endothelial Cells Using Agilent xCELLigence RTCA eSight System **Mr. Rohan Banerjee,** University of California, San Diego, USA
15:20-15:35	**BEB8435:** Ultrasensitive Cell Surface Stress Biosensor Based on Magnetic-Stress-Electrical Coupling **Dr. Haoyu Wang,** Taiyuan University of Technology, China
15:35-15:55	**COFFEE BREAK**
15:55-16:15	**Invited Speech BEB8405:** Mitigation of Airborne Transmission of COVID Virus between Occupants in a Confined Room with an Air Purifier **Prof. Chuck Yu,** The International Society of the Built Environment (ISBE), UK
16:15-16:30	**S-BEB8359:** Real-Time Analysis Reveals Hoechst 33342-Associated Growth Suppression in Human Bronchial Epithelial Cells Treated with IGF-1 and GHRH **Ms. Arwen Fu,** University of California, San Diego, USA
16:30-16:45	**S-BEB8387:** Affordable and Rapid Multiplex LAMP Detection System with Visual Colorimetric Readout for the Simultaneous Detection of Pathogenic Bacterial Species **Ms. Minchae Kim,** Chengdu International School, China

16:45-17:00	**BEB8338:** AMOD: An Automated Microfluidic Oocyte Denudation System for Standardized Assisted Reproductive Technology **Mr. Hoang Dinh Phuc,** Kyung Hee University, South Korea
17:00-17:15	**S-BEB8398:** Differential Effects of Ectoine on Oxidative Stress-Induced Cell Death in CHO and CHO-APP Cells **Mr. Dylan Kim,** University of California, San Diego, USA
17:15-17:30	**BEB8438:** Novel Photoelectrochemical Biosensors for Tumor Biomarker Detection **Ms. Min Li,** Taiyuan University of Technology, China
17:30-17:45	**BEB8433:** Machine Learning-Assisted Multiplexed Biomarker Early Liver Cancer Screening Based on a Magneto-Actuated Surface Stress Biosensing Array **Dr. Xingbo Yu,** Taiyuan University of Technology, China

DAY 3 | November 9, 2026

Location: Conference Hall 04-05, 2/F, Building 10W, Hong Kong Science Park

Invited & Oral Session 3: Medical Imaging, Bioinformatics, Health Analytics & Diagnostics

Conference Hall 04-05 | 09:00-11:50

Session Chairs: **Prof. Zhude Tu,** Washington University School of Medicine, USA
Assoc. Prof. Tao Sun, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, China

09:00-09:20	**Invited Speech BEB8380:** Development and Validation of S1PR2 PET Radiotracers for Imaging Myocardial Ischemia Reperfusion Injury in a Rodent Model **Prof. Zhude Tu,** Washington University School of Medicine, USA
09:20-09:40	**Invited Speech BEB8335:** Carotid Plaque Vulnerability Assessment: Integrating in vivo Imaging, Hemodynamic Analysis, and Mechanobiology **Prof. Zhongzhao Teng,** Fuyao University of Science and Technology, China
09:40-10:00	**Invited Speech BEB8378:** From Lesion to Systemic Molecular Imaging: Integrated Whole-Body PET/CT Analysis **Assoc. Prof. Tao Sun,** Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, China
10:00-10:15	**BEB8306:** A Bioinformatic Framework Integrating Single-Cell and Bulk Transcriptomics for Molecular Stratification Based on Intra-Tumoral Heterogeneity **Ms. Ziqi Gong,** Southeast University, China
10:15-10:30	**BEB8339:** A Smartphone-Integrated Nanoplasmonic Platform for Rapid Photothermal Bacterial Lysis **Ms. Gayathri Sureshkumar,** Kyung Hee University, South Korea
10:30-10:50	**COFFEE BREAK**

10:50-11:05	**BEB8188:** Age-Related Characteristics of Adolescent Hormone Networks: A Hair-Based Network Analysis of Nine Hormones **Mr. Xuliang Hou,** Southeast University, China
11:05-11:20	**S-BEB8355:** Computational Analysis of Structural Stability Changes in Amyloidosis Associated ATTR Variants **Mr. Derek Yu,** University of California, San Diego, USA
11:20-11:35	**S-BEB8358:** Design and Validation of Custom 3D-Printed Camera Mounts with Open Broadcaster Software Synchronization for a Multiview Infrared Mouse Tracking System **Ms. Qing Zhong, Mr. Yibin Cai and Mr. Hongyang Kuang,** University of California, San Diego, USA
11:35-11:50	**S-BEB8400:** Real-Time Impedance and Imaging Reveal Differential Effects of Methyl Yellow and Tartrazine on Human Cerebral Microvascular Endothelial Cells **Ms. Ka Ning Zhao,** University of California, San Diego, USA
Video Presentation	**BEB8403:** Structure-Aware Digital Twin Integrating Causal AI and Inner-Ear Organoid-on-a-Chip for Otoprotective Drug Screening **Mr. Xiaotao Liu,** Southeast University, China
11:50-14:00	**LUNCH BREAK**

Invited & Oral Session 4: Wearable, Neural & Rehabilitation Engineering

Conference Hall 04-05 | 14:00-17:15

Session Chair:	**Prof. Qun Wei,** Keimyung University, South Korea
14:00-14:20	**Invited Speech BEB8162:** Lower Mini-Sternotomy: A New Approach for Minimally Invasive Coronary Artery Bypass Surgery — Chances and Limitations of a New Technology **Prof. Thomas Wittlinger,** University Teaching Hospital Goslar, Germany
14:20-14:35	**BEB8167:** A Feasibility Study of Multi-Wavelength LED Skull Irradiation for Glycemic Modulation in Patients with Diabetes Mellitus **Mr. Chi-Chang Wu,** I-Shou University
14:35-14:50	**BEB8187:** Association of ADHD Symptoms with the Interactions within and between the HPA Axis and Melatonin System Characterized by Hair-Based Biomarkers **Dr. Sanjun Yi,** Southeast University, China
14:50-15:05	**BEB8390:** Affective and Physiological Synchrony During the Mother–Infant Still-Face Paradigm: A Feasibility Study Using Wearable Sensors and Automated Facial Expression Analysis **Dr. Daehwa Baek,** Kyungpook National University, South Korea
15:05-15:20	**BEB8204:** Pudendal Nerve Interfacing Using Implantable Neurotechnologies **Dr. Alejandro Carnicer-Lombarte,** City University of Hong Kong, Hong Kong SAR, China

15:20-15:35	**BEB8222:** Biomechanical Comparison of TLIF- and Bioflex-Based Topping-Off: A Finite Element Analysis **Mr. Chunkai Yan,** Nantong University, China
15:35-15:55	**COFFEE BREAK**
15:55-16:15	**Invited Speech BEB8415:** Estimating Heart-Failure Echocardiographic Indices from Heart Sounds and Pulse Waves with a Dual-Signal Smart Stethoscope **Prof. Qun Wei,** Keimyung University, South Korea
16:15-16:30	**BEB8200:** Wearable Magnetoencephalography in a Large-Scale Mobile Environment: An Exploratory Auditory Paradigm Study **Ms. Jiuge Lin,** Harbin Institute of Technology, China
16:30-16:45	**BEB8283:** A Wearable Device to Detect and Prevent Falls among Seniors in Singapore **Ms. Roopashini Sivananthan,** National University of Singapore, Singapore
16:45-17:00	**BEB8347:** A Differential Interbeat Interval-Based Synchronization Method for Long-Term BCG and ECG Signals **Ms. Lijuan Yang,** South China Normal University, China
17:00-17:15	**BEB8266:** Review of Uncertainty in Heart Rate Variability and Challenges with the Control of Its Impact in Artificial Intelligence-Driven Medical Applications **Ms. Elaine Taylor-Whilde,** Nine Health Global Ltd, UK

AWARDS BANQUET **Parc 88, G floor, 10W | 18:00-20:30**	
18:00-18:10	Guest Arrival
18:10-18:15	Closing Remarks
18:15-18:30	Award Ceremony
18:30-20:30	Banquet (Dinner)

Part IV Featured Speakers

Keynote Speakers

KEYNOTE SPEAKER: Prof. Eddie Yin-Kwee NG
PhD, FAESS [SG], FEUSA & FEASA [EU], FAIMBE, FASME & FNAT [USA], FIET [UK], FAIIA, FAPTSA & FIETI [HK], DFIDSAI & MCAAI [CN], Nanyang Technological University, Singapore

Keynote Speech 1

November 8, 2026
Time: 09:05-09:40

Speech Title: Metasense: Wearable Photoplethysmographic Biomarker Platform for Cardiometabolic Disease Surrogate Identification and Clinical Licensing

Abstract. The speaker would like to share his team's recent translational work pioneering an important area of medical and biological engineering. His NTU-SingHealth team technology in photoplethysmorphology (PPG) for cardiometabolic artificial intelligence is a cuffless, calibration-free, consumable-free approach for blood pressure and glucose estimation; applicable to peri-operative & critical care; home & ambulatory monitoring; chronic-disease management & currently undergoing with a clinical research & rigorous trials with decentralised data capture. Our patent (https://patentscope2.wipo.int/search/en/WO2024205510) is with 5 national entries to USA, China, Japan, EU and S'pore, while the 2nd related TD on multiwavelength dual-point photoplethysmorphometry (MW-2PPM) cardiometabolic monitoring method was filed in early 2026. Our invention is entering the commercialization phase with a spin-off, and we are attracting ~ SGD 1m for regulatory pathway in HSA of Singapore and FDA thereafter.

Biography: Dr. Eddie obtained Ph.D. at Cambridge Univ. with a Cambridge Commonwealth Scholarship.

He is elected as:

Fellow for Academy of Engineering Sciences, Singapore (SG) (https://www.aessuav.org/);

Academician for European Academy of Sciences (EU-Greece);

Academician for European Academy of Sciences and Arts (EU-Austria);

Fellow of the American Institute for Medical and Biological Engineering (USA)

with his citation reads: "For outstanding contributions in non-contact, early detection of human-health abnormality non-invasively with infrared-physics-technology";

Fellow (Life) of the American Society of Mechanical Engineers (USA);

Fellow (inaugural) for National Academy of Technology (USA);

Fellow of Institute of Engineering and Technology (United Kingdom);

Fellow of Industry Academy: International Artificial Intelligence Industry Alliance (HK);

Fellow of Asia-Pacific Technological Sciences Academy (Hong Kong);

Fellow of International Engineering and Technology Institute (Hong Kong);

Distinguished Fellow for Institute of Data Science and Artificial Intelligence (China);

Member (Life), China Association of Artificial Intelligence, CAAI (China) (https://sso.caai.cn/).

Eddie received 2022 Alumni Highly Commended Award from the VC of Newcastle University, UK for his contributions to the society and achievements as academia. Winner of the 2024 2nd IETI (International Engineering and Technology Institute) Ramesh Agarwal Lifetime Achievement Award in Science, Engineering or Technology. This award honors individuals with lifetime achievements in research, education, and service towards the advancement of any discipline of engineering and technology.

Since 1992, he works as Faculty in the School of Mechanical & Aerospace Engineering in Nanyang Technological University, Singapore. He is the: Lead Editor-in-Chief for the ISI Journal of Mechanics in Medicine and Biology for dissemination of original research in all fields of mechanics in medicine and biology since 2000; & Lead Editor-in-Chief for the ISI Journal of IET - AI in Surgery for dissemination of original research in integrating of artificial intelligence, surgery, and biomedical engineering, since 2024 (https://www.worldscientific.com/page/iet/ai-surgery).

He is included in the Stanford list of the World's top 2% Scientists since 2019 (ranked <80 out of 64,425 as 0.001% in the field of Biomedical Engineering). The ranking method is calculated by removing the self-citation of the literature. His Google Scholar (h-index: 77+) can be found in: http://scholar.google.com.sg/citations?user=9QW1LYAAAAAJ.

KEYNOTE SPEAKER: Dr. William C. CHO

PhD, RCMP, FHKIMLS, FHKSMDS, Chartered Scientist (UK), FIBMS(UK), Department of Clinical Oncology, Queen Elizabeth Hospital, Hong Kong SAR, China

Keynote Speech 2

November 8, 2026
Time: 09:40-10:15
Speech Title: Translational Application of Cancer Biomarkers and Beyond

Abstract. Translational cancer research continues to serve as the essential bridge between laboratory discovery and aim for improvements in patient care. Yet, despite unprecedented technological advances, the path from identifying a promising biomarker to using it in the clinic remains difficult. Tumor heterogeneity, the emergence of therapeutic resistance, and the great complexity of integrating data from genomic, transcriptomic, proteomic, and epigenetic platforms all work together to slow progress. Genomic and proteomic profiling, alongside molecular diagnostics, have become essential tools for classifying cancer subtypes and forecasting how individual patients will respond to specific therapies. Among these tools, liquid biopsies, especially the detection and quantification of circulating tumor DNA and other blood-based analytes, offer a promising avenue for non-invasive early detection and for tracking treatment responses. They also provide a dynamic window into developing resistance mechanisms, information that fixed tissue biopsies cannot easily capture. Nevertheless, the reality is that most biomarkers that show initial promise in the research setting may not reach routine clinical use. That high rate of failure demands a paradigm shift. Incorporation of artificial intelligence and machine learning approaches may pave a new avenue, which can combine multi-omics layers into more robust predictive models. Beyond these more conventional diagnostic and prognostic applications, this presentation will also move into therapeutic territory. Drug repurposing has gained renewed attention as a strategy to get around resistance without the extremely high costs of de novo drug development. What connects all these different ideas is a recognition that the translational gap cannot be closed by better technology alone. It also requires broader conceptual frameworks, interdisciplinary collaboration, and a willingness to explore unconventional combinations, both in the laboratory and at the bedside.

Biography: Dr. William Cho is a leading researcher in the Department of Clinical Oncology at Queen Elizabeth Hospital, Hong Kong. With a career dedicated to translational cancer research, he focuses on discovering critical biomarkers to advance cancer diagnosis, predict treatment response, and improve patient prognosis. His prolific body of work includes over 700 SCI peer-reviewed papers, including Lancet, Lancet Oncology, Annals of Oncology, Advanced Science, Journal of Thoracic Oncology, Nature Communications, Cancer Communications,

PNAS, Science Advances, Journal of the National Cancer Institute, Journal of Extracellular Vesicles, Clinical Cancer Research, Molecular Cancer, and Theranostics, among others. His research explores the frontiers of oncology, including proteomics, non-coding RNAs, extracellular vesicles, drug repurposing, and Chinese medicine. Additionally, Dr. Cho has crafted over three dozen books, including "MicroRNAs in Cancer Translational Research", "An Omics Perspective on Cancer Research", "Drug Repurposing in Cancer Therapy: Approaches and Applications", "Resistance to Anti-CD20 Antibodies and Approaches for Their Reversal", and "Biochemical and Molecular Pharmacology in Drug Discovery" to name a few. Dr. Cho's influence is underscored by over 38,000 citations and an H-index above 108. In recognition of his outstanding impact, he has been named a Highly Cited Researcher by Clarivate for 2023 and 2024 and has been consecutively listed among the top 2% of the world's most influential scientists since 2017.

KEYNOTE SPEAKER: Prof. Chengyu Liu
PhD, Dean of School of Instrument Science and Engineering, Southeast University, Nanjing, China;
Director, Wearable Heart-Sleep-Emotion Intelligent Monitoring Lab, Southeast University, Nanjing, China

Keynote Speech 3

November 8, 2026
Time: 11:05-11:40

Speech Title: Latest Clinical Advances in the Application of New ECG Technologies and ECG-Based AI

Abstract. This report systematically summarizes the clinical applications of new electrocardiogram (ECG) technologies in recent years, including high-frequency ECG technology, non-contact ECG technology, ECG signal processing algorithms, and deep learning models for ECG. It focuses on introducing the application achievements of high-precision ECG sensing, new ECG AI algorithms, and AI-assisted diagnosis in cardiovascular disease screening and emotional cognition, providing a new paradigm for ECG technology to move from recordability to comprehensibility and predictability.

Biography: Dr. Liu received his B.S. and Ph.D. degrees in Biomedical Engineering from Shandong University, China, in 2005 and 2010 respectively. Dr. Liu has completed the Postdoctoral trainings at Shandong University, Newcastle University in the UK (2013-2014) and Emory University in the USA (2015-2017). He is now the Dean of the School of Instrument Science and Engineering in Southeast University, a Professor of the State Key Laboratory of Digital Medical Engineering, and the founding Director of Wearable Heart-Sleep-Emotion Intelligent Monitoring Lab in Southeast University, leading the research works on medical big-data processing, medical device development and clinical applications. He is now the chair of Publication Committee of International Federation for Medical and Biological Engineering (IFMBE), a Council member of Chinese Society of Biomedical Engineering (CSBME), and serve as an Executive Editorial Board member for Physiological Measurement, a Deputy Editor for Medical & Biological Engineering & Computing, etc. He has published more than 300 original Journal/Conference papers, and holds more than 30 patents as an inventor. His research topics include: mHealth and intelligent monitoring, machine learning and big data processing for physiological signals, early detection and device development for cardiovascular diseases, sleep quality and emotion status monitoring.

KEYNOTE SPEAKER: Prof. Zong-Ming Li

PhD, Chair Professor; Dean, Faculty of Biomedical Engineering, Shenzhen University of Advanced Technology, China

Keynote Speech 4

November 8, 2026
Time: 11:40-12:15
Speech Title: Engineering the Hand: From Biomechanics to Clinical Innovation

Abstract. The human hand is a highly specialized biomechanical system that enables dexterous manipulation, sensory exploration, and interaction with the environment. Understanding its function requires an integrated approach combining biomechanics, motor control, quantitative imaging, and biomedical engineering. This presentation will highlight advances in hand biomechanics and their translation into innovative approaches for the assessment and treatment of upper-extremity musculoskeletal disorders. First, studies of finger force production, digit coordination, and sensorimotor control will be discussed to illustrate the biomechanical principles underlying hand dexterity and functional performance. Second, advances in quantitative imaging and biomechanical assessment will be presented, emphasizing the potential of imaging methods to characterize musculoskeletal structures and elucidate their relationships with hand function and pathology. Third, research on carpal tunnel syndrome will demonstrate how biomechanical insights can inspire novel, noninvasive therapeutic strategies. Looking forward, integration of biomechanical modeling, artificial intelligence, advanced sensing, and personalized rehabilitation may further transform the diagnosis, treatment, and prevention of hand disorders. By bridging engineering science and clinical needs, this research framework aims to advance hand function, improve musculoskeletal health, and enhance quality of life.

Biography: Zong-Ming Li, PhD, is currently Chair Professor and Dean of Faculty of Biomedical Engineering, Shenzhen University of Advanced Technology. Prior to joining the current position in 2026, he was the William and Sylvia Rubin Chair of Orthopedic Research and Professor of Orthopedic Surgery and Biomedical Engineering at the University of Arizona. With more than 35 years of research in musculoskeletal biomechanics, Dr. Li’s work has not only advanced scientific understanding but also informed clinical applications that improve patient outcomes. He is the recipient of the ASME Savio L-Y. Woo Translational Biomechanics Medal, recognizing his contribution to the field. Dr. Li has been recognized as a fellow of several leading science and engineering organizations, including American Institute for Medical and Biological Engineering (AIMBE), American Society of Mechanical Engineers (ASME), American Society of Biomechanics (ASB), Institute of Electrical and Electronics Engineers (IEEE), International Academy of Medical and Biological Engineering (IAMBE), International Combined Orthopaedic Research Societies (ICORS), International Academy of Artificial Intelligence Sciences (AAIS), International Society of Biomechanics (ISB), and Orthopaedic Research Society (ORS).

Invited Speakers

Prof. Thomas Wittlinger
University Teaching Hospital Goslar, Germany

Prof. Qi Zhao
University of Macau, Macao SAR, China

Prof. Zhude Tu
Washington University, USA

Assoc. Prof. Alvin Y. Liu
University of Washington, USA

Prof. Zhongzhao Teng
Fuyao University of Science and Technology, China

Assoc. Prof. Tao Sun
Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, China

Assoc. Prof. Yong (Tiger) Zhang
University of Southern California, USA

Asst. Prof. Li Wang
University of Macau, Macao SAR, China

Prof. Qun Wei
Keimyung University, South Korea

Dr. Yukihiko Hara
Hara Office Inc., Japan

Prof. Ebru Başaran
Anadolu University, Turkey

Part V Presentation Guidelines

Oral Presentation Instructions

Devices Provided by the Conference Organizer:

- Laptops (with MS-Office & Adobe Reader)
- Projectors & Screen: Ratio 16:9
- Laser Sticks
- Microphones

Materials Provided by the Oral Presenters:

- PowerPoint or PDF Presentation file (Note: Please show your paper ID as **BEB*** ** on the last page.)

For presenters who fail to upload their presentation files through the system or submit files to the Conference Secretary prior to the conference start, please keep your presentation saved on a memory stick and load it onto the laptop for your respective session approximately **15 minutes** before the session starts.

Time Allotted for Each Presentation

- Keynote Speech: 35 minutes of presentation, including 3-5 minutes of Q&A
- Invited Speech: 20 minutes of presentation, including 3-5 minutes of Q&A
- Oral Presentation: 15 minutes of presentation, including 3-5 minutes of Q&A

Poster Presentation Instructions

Materials Provided by the Conference Organizer:

- X Racks & Base Fabric Canvases
- Adhesive Tapes or Clamps

Materials Provided by the Presenters:

- Home-Made Posters
- Posters Printed by ICBEB 2026 Committee

X-Rack

Requirements for the Posters:

- Material: not limited, can be posted on the Canvases
- Poster size: 160 cm (height) × 60 cm (width)

Instructions for Poster Presenters:

- Each presenter is required to stand by their poster during the dedicated poster session to facilitate discussion and exchange with fellow participants.
- Presenters are responsible for removing their posters at the end of the session. The Conference Secretariat will not be liable for any posters left uncollected afterwards.

Part VI Awards

Best Oral Presentation Awards

During the conference, assessment sheets will be distributed to the audience before each session. **ONE** Best Oral Presentation will be selected in **EACH** session based on the ranking of votes and evaluations from the session chairs. The Best Oral Presentation Awards are open to contributed oral presentations only. Winners will be announced at the closing ceremony.
Each award includes a certificate and complimentary registration for the next ICBEB conference.

Selection Criteria

- Research Quality
- Presentation Performance
- Presentation Language
- Interaction with Audiences
- PowerPoint Design

Best Poster Awards

TWO Best Poster Presentations will be selected during the conference. Judges (who have no conflict of interest with the presenters) will be invited by the Conference Chair to evaluate the posters. Winners will be announced at the closing ceremony.
Each award includes a certificate and complimentary registration for the next ICBEB conference.

Selection Criteria

- Research Quality
- Presentation Skill
- Design

Outstanding Student Presentation Awards

THREE Outstanding Student Presentations will be selected during the conference by the Technical Program Committee. The Best Student Presentation Awards aim to promote, recognize, and reward outstanding research conducted by students in the field of Biomedical Engineering and Biotechnology, as well as their ability to communicate their work effectively. Winners will be announced at the closing ceremony.
Each award includes a certificate and discounted registration for the next ICBEB conference.

- ✓ **The awards will be presented at the Banquet, and the results will be published on the ICBEB official website.**

Part VII Conference Venue

Hong Kong Science Park (香港科學園)

Address: 2/F, Building 10W, Science Park West Avenue, Hong Kong Science Park, Pak Shek Kok, New Territories, Sha Tin, Hong Kong
地址：香港新界沙田區白石角吐露港沿岸香港科學園科技大道西路 10W 2 樓
Email: mice@hkstp.org
Tel: +852 2639 8301

Park Map

Access to Hong Kong Science Park

*From Hong Kong International Airport to the venue

By Public Transport

1. From Airport (Ground Transportation Centre) Bus Terminal, board Bus Route A47X (Towards Tai Wo Terminus) for 3 stops, to Tsing Sha Highway Bus Interchange.
   從香港國際機場地面運輸中心巴士總站乘坐 A47X（太和總站方向），乘坐 3 站，抵達青沙公路轉車站。
2. From Tsing Sha Highway Bus Interchange, transfer to Bus Route 272X (Towards Tai Po Central Terminus) for 4 stops, to Hong Kong Science Park.
   原地換乘 272X（大埔中心總站方向），乘坐 4 站，抵達香港科學園站。
3. Walk 220 meters, approx. 3 minutes to Hong Kong Science Park Building 10W.
   步行 3 分鐘（220 米），即可到達香港科學園 10W。

By Taxi

Pick-up point: Taxi stand at Hong Kong International Airport (Arrivals Hall, clearly signposted)

- Taxi type: Red urban taxi (red in color) – Green taxis not allowed to enter Hong Kong Science Park
- Estimated travel time: Approx. 35–45 minutes (subject to traffic conditions)
- Estimated fare: Approx. HK$250–380 (including tunnel tolls and luggage surcharge)

*From Hong Kong West Kowloon High Speed Rail Station to the venue

By Public Transport

1. From Hong Kong West Kowloon Station, walk to Austin Station and enter, take Tuen Ma Line (towards Wu Kai Sha) for 2 stops, and arrive at Hung Hom Station.
   步行至柯士甸站入閘，乘坐屯馬線（烏溪沙方向）途經 2 站，到達紅磡站。
2. Transfer to East Rail Line (towards Lo Wu / Lok Ma Chau) for 6 stops, and alight at Exit B of University Station.
   從紅磡站轉乘東鐵線（往羅湖/落馬洲方向）共 6 站，到達大學站 B 出口出站。
3. Walk approx. 2 minutes to University Station Bus Terminus.
   步行約 2 分鐘前往大學鐵路站巴士總站。
4. Board Bus Route 272A (Circular, via Mayfair by the Sea) for 4 stops, and alight at Hong Kong Science Park stop. / Board Bus Route 272K (Circular, via Hong Kong Science Park Phase III) for 4 stops, and alight at Hong Kong Science Park stop.
   乘坐 272A（循環線，經逸瓏灣 方向）共 4 站 / 或乘坐 272K（循環線，經香港科學園第三期方向）共 4 站，在香港科學園站下車。
5. Walk approx. 2 minutes (160 meters) to Hong Kong Science Park Building 10W.
   步行約 2 分鐘（約 160 米）抵達科學園 10W。

Note: Bus 272K operates only during morning and evening peak hours from Monday to Saturday (06:30–09:50 & 17:00–18:50), and is not available on Sundays or public holidays.
註: 272K 僅在週一至週六早晚高峰時段運營 (06:30 - 09:50; 17:00 - 18:50), 週日及公眾假期暫停服務。

By Taxi

- Pick-up point: Taxi stand at West Kowloon Station (located at G/F, near exit B)
- Taxi type: Red urban taxi (red in color) – Green taxis not allowed to enter Hong Kong Science Park
- Estimated travel time: Approx. 30–40 minutes (subject to traffic conditions)
- Estimated fare: Approx. HK$180–250 (including tunnel tolls and luggage surcharge)

Memo

Website

Wechat

Contact Us

www.icbeb.org

icbeb@icbeb.org / icbeb@academicconf.com

Conference Secretariat: Linda Li, Cassie Cheng