



香港中文大學
The Chinese University of Hong Kong



Institute of Medical Intelligence and XR
智能醫療與擴展現實研究所

IMIXR WORKSHOP 2024

RESEARCH GRANTS COUNCIL THEME-BASED RESEARCH SCHEME

**INSTITUTE OF MEDICAL INTELLIGENCE AND XR
WORKSHOP 2024**

26 July 2024 (Friday)

9:30 a.m. - 5:30 p.m.

LT1B, 1/F, Cheng Yu Tung Building
The Chinese University of Hong Kong

Call for Participation

Institute of Medical Intelligence and XR (IMIXR) Workshop 2024
26th July 2024, The Chinese University of Hong Kong

The **Institute of Medical Intelligence and XR (IMIXR) Workshop 2024** will be held on **26th July 2024** in LT1B, Cheng Yu Tong Building (CYT) CUHK.

The Workshop aims to bring together the realms of artificial intelligence (AI) and extended reality (XR), with a strong emphasis on engineering innovation and its clinical applications in medicine. We invite participants from diverse backgrounds to join us in presenting and discussing the latest advancements in this rapidly evolving domain. This workshop is designed as a collaborative platform, fostering knowledge exchange and interdisciplinary dialogue. Clinicians, engineers, researchers, and industry professionals will come together to share their experiences, ideas, and novel approaches, creating a vibrant atmosphere of innovation.

On behalf of the Project Coordinator, Professor Pheng Ann HENG, we cordially invite you to [register](#) for joining this workshop event:

IMIXR Workshop 2024

Date & Time: 26th July 2024, 9:30 - 17:30

Venue: LT1B, 1/F, Cheng Yu Tong (CYT) Building, CUHK

It would be grateful if you could advise your attendance **by 5th July 2024**.

Should you need more information, please email to imixr_info@cse.cuhk.edu.hk.

We look forward to your valued participation.



Time	Programme
9:00 - 9:30	Registration
9:30 - 9:45	Opening Remarks (by Project Coordinator) Professor Pheng Ann HENG
9:45 - 10:00	Intelligent Personalized Diagnosis (IPD) Program Update Professor Qi DOU
10:00 - 10:15	AI-XR Interaction & Virtual Surgery (IVS) Program Update Professor Chi-Wing FU
10:15 - 10:30	Intraoperative AI-AR Assisted Surgery (IAS) Program Update Professor Jing QIN
10:30 - 11:00	Talk I: The Development of Medical Imaging in Artificial Intelligence Prof. Huimao ZHANG (Jilin University)
11:00 - 11:30	Coffee Break (The Stage, 3/F CYT)
11:30 - 12:00	Talk II: Application of Artificial Intelligence in Neck Ultrasound Prof. Michael YING (The Hong Kong Polytechnic University)
12:00 - 12:30	Talk III: Intelligent Robotic Assistant for Vitreoretinal Surgery Prof. Chee-Kong CHUI (National University of Singapore)
12:30 - 14:00	Lunch Break (The Stage, 3/F CYT)
14:00 - 14:30	Talk IV: AI in Radiology Prof. Kyongtae Tyler BAE (The University of Hong Kong)
14:30 - 15:00	Talk V: Multi-source Heterogeneous Medical Image Computing Prof. Xin YANG (Huazhong University of Science and Technology)
15:00 - 15:30	Talk VI: Towards developing AI foundation models for medical imaging Prof. Shanshan WANG (Shenzhen Institute of Advanced Technology)
15:30 - 16:00	Talk VII: Full-stack Intelligent Ultrasound towards Standard Imaging, Scanning, Measurement and Diagnosis Prof. Dong NI (Shenzhen University)
16:00 - 16:40	Student Session I: 2 Minute Pitch
16:40 - 17:50	Student Session II: Posters (Venue: The Stage, 3/F CYT)
18:00 - 20:00	Dinner (Chung Chi College Staff Club, CUHK)



Invited Speakers



Prof. Huimao ZHANG
(Jilin University)

The Development of Medical Imaging in Artificial Intelligence

Bio: Huimao Zhang is a Chief Physician, Professor, and Director of the Department of Radiology, The First Hospital of Jilin University. She has long been committed to molecular imaging and artificial intelligence big data research in tumor screening, diagnosis, identification and prognosis. She has presided over 22 projects such as international cooperation of the Ministry of Science and Technology, National Health and Family Planning Commission, and National Natural Science Foundation of China. She has won 1 first prize of Jilin Provincial Natural Science Award, 1 second prize of Jilin Provincial Science and Technology Progress Award, 1 third prize of Jilin Provincial Natural Science Academic Achievement Award, and 4 medical achievement awards of Jilin Provincial Department of Education and Jilin University.



Prof. Michael YING
(The Hong Kong Polytechnic University)

Application of Artificial Intelligence in Neck Ultrasound

Bio: Michael Ying is a Professor and the Associate Head of the Department of Health Technology and Informatics, The Hong Kong Polytechnic University. He is a Founding Fellow of the Hong Kong College of Radiographers and Radiation Therapists, and was the President of the College in 2021-2022. Professor Ying's research interests focuses on the development and application of advanced ultrasound imaging techniques, including artificial intelligence, in cancer and other noncommunicable diseases. Professor Ying has authored over 160 peer-reviewed journal papers and contributed to 3 book chapters. Additionally, Professor Ying has delivered more than 120 presentations at conferences and scientific meetings, including 14 invited talks and keynote presentations.



Invited Speakers



Prof. Chee Kong CHUI
(National University of
Singapore)

Intelligent Robotic Assistant for Vitreoretinal Surgery

Bio: Chee-Kong Chui is an Associate Professor in the Department of Mechanical Engineering at the National University of Singapore. He is a Senior Member of IEEE and a Co-Chair (2019-Present) of the Technical Committee (TC) on Cyber-Medical Systems of IEEE Systems, Man, and Cybernetics (SMC) Society. He served as Chairman (2015-2016) and Committee Member (2014 and 2017-2018) of the IEEE Engineering in Medicine & Biological Society (EMBS) Singapore Chapter. Since 2014, he has been a Board Member of the Asian Society of Computer Aided Surgery. There are aspects of mechanics, electronics, computing, and medicine in his over 20 years of R&D career in universities and research institutes. His current research focuses on intelligent cyber-physical systems and their applications in healthcare and manufacturing.



Prof. Kyongtae Tyler BAE
(The University of
Hong Kong)

AI in Radiology

Bio: Kyongtae Ty Bae is Clinical Professor and Head of the Department of Diagnostic Radiology and Global STEM Professor at the University of Hong Kong. He is also the Director of the Jockey Club STEM Lab of Innovative Medical Imaging Research. Dr. Bae's JC STEM Lab of Innovative Medical Imaging Research at HKU specializes in developing novel image-guided intervention, developing and analyzing morphological and functional imaging biomarkers from medical images, and improving the quality and efficiency of radiology practice by use of AI and machine learning. Dr. Bae has received the 2021 Lillian Jean Kaplan International Prize for Advancement in the Understanding of Polycystic Kidney Disease. He served as Chair of the Academic Radiology Research Council and Chair of the Radiological Society of North America Research Grant Review Study Sections.



Invited Speakers



Prof. Xin YANG

(Huazhong University of Science and Technology)

Multi-source Heterogeneous Medical Image Computing

Bio: Xin Yang is a Professor at School of Telecommunications, Huazhong University of Science and Technology. She is a recipient of the National Science Fund for Distinguished Young Scholars and primarily works in the fields of 3D vision and medical image analysis. Professor Yang has published over 90 papers in prestigious venues, holds more than 20 patents, and has authored two book chapters. Her awards include the First Prize in Technical Invention from Hubei Province, the Shi Qingyun Women Scientist Award by the China Society for Image and Graphics, and a Best Paper Nomination at ISMAR. She has been recognized among the top 2% of scientists worldwide. She is a member of the IEEE BISP Technical Committee, Vice Secretary-General of the CSIG Young Workers Committee, and Vice Secretary-General of the CCF Multimedia Committee.



Prof. Shanshan WANG

(Chinese Academy of Sciences)

Towards developing AI foundation models for medical imaging

Bio: Shanshan Wang is a Professor at Paul C Lauterbur Research Center, Chinese Academy of Sciences. With dual Ph.D. degrees in Biomedical Engineering (BME) and Computer Science (CS), she pioneered the integration of core CS methodologies with imaging sciences. Her innovations in medical imaging introduced real-time MR imaging with deep learning and automated disease detection. Professor Wang is a Gordon Plenary Lecturer, NIBIB New Horizons Plenary Lecturer, IEEE senior member, OCSMRM BoT/Life member, Associate editor of IEEE Transactions on Medical Imaging, Pattern Recognition and Biomedical Signal Processing and Control, Deputy editor of Magnetic resonance in medicine, etc. She also got selected as the World's Top 2% of Scientists by Stanford University.



Prof. Dong NI

(Shenzhen University)

Full-stack Intelligent Ultrasound towards Standard Imaging, Scanning, Measurement and Diagnosis

Bio: Dong Ni is a Professor and the Associate Dean at the School of Biomedical Engineering, Shenzhen University. He founded the Medical UltraSound Image Computing (MUSIC) Lab in 2010. He has published more than 200 papers, with an H-index of 44 and more than 9,000 citations. He was the local Chair of MICCAI 2019 and has served as the Board member of MICCAI society from 2020. Professor Ni has been involved in the research, clinical application and industrial transformation of intelligent ultrasound for a long time. He is also the founder and chief scientist of Shenzhen RayShape Medical Technology Co., Ltd., and has led a R&D team of hundreds of people and developed more than 10 ultrasound AI software.



LOCATION MAP



MTR Station
University Exit B
港鐵大學站B出口

Cheng Yu Tung
(CYT) Building
鄭裕彤樓

LT1B

Organizer:

Collaborating Universities:



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