

SCIENTIFIC PROGRAM

SESSION LECTURE

No.32

**Building AI Medical Ecology to Help Clinical
High-quality Development
Room: Phoenix Room 4**

**Co-Chairs:
Dexing Kong**



Terry Peters



Day 1 October 19th (Saturday) 14:00 – 17:30

| Time | Speaker | Title |
|-------------|--|---|
| 14:00-14:30 | Dexing Kong Zhejiang University, Zhejiang Normal University, China | Ultrasound AI and applications |
| 14:30-15:00 | Yanwu Xu South China University of Technology, China | Glaucoma Screening from Color Fundus Images |
| 15:00-15:30 | Jing Yuan Zhejiang Normal University, China | Non-rigid Image Registration with Topology Preservation |
| 15:30-16:00 | Tea Break | |
| 16:00-16:30 | Aaron Fenster Western University, Canada | Development and translation of cost-effective 3D ultrasound-based imaging systems for diagnostic and image-guided intervention applications |
| 16:30-17:00 | Terry Peters Western University, Canada | The Role of AI in Image-guided Interventions |
| 17:00-17:30 | Fabio Roli The University of Genova, The University of Cagliari, Italy Zhejiang Normal University, China | Security and Safety of AI in Medicine |



Dexing Kong

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Qiushi Distinguished Professor; Doctoral Supervisor; Director of the Institute of Applied Mathematics; Chairman of Research and Development Center of Image Processing of Faculty of Science of Zhejiang University, Dean of the College of Mathematical Medicine of Zhejiang Normal University, Director of National Engineering Laboratory for Big Data Algorithms and Analysis Technology (Hangzhou Innovation Center), Director of Ultrasonic Big Data Innovation & Application Center of National Health Commission. His research areas are Medical Big Data and Artificial Intelligence, Mathematical Medicine, Intelligent Diagnosis using Medical Images, R&D of Precision Surgical Navigation System, Intelligent Medical Equipment and Medical Robots.



Terry Peters

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Professor in the Departments of Medical Imaging and Medical Biophysics at Western University, Scientist in the Imaging Research Laboratories at the Robarts Research Institute, where he expanded his research focus to encompass image-guided procedures in multiple organ systems including the heart. He has authored over 370 peer-reviewed papers, books and book chapters, has been cited over 28,000 times with an h-index of 69, and has mentored over 100 trainees. He is a Fellow of the Canadian College of Physicists in Medicine, the Australasian College of Physical Scientists and Engineers in Medicine, The Canadian Organization for Medical Physics, the Institute of Electrical and Electronics Engineers, the MICCAI Society, the Canadian Academy of Health Sciences, and the Royal Society of Canada.



Yanwu Xu

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Professor at South China University of Technology, Member of Science and Technology Innovation and Industry Promotion Working Committee of Chinese Society of Biomedical Engineering. Since 2004, he has been continuously engaged in research on computer vision, machine learning theory, and application research. He has over 150 publications in international journals and conferences with more than 8600 Google Scholar citations. He has been granted for over 10 foreign patents and over 40 Chinese patents. He has successively been appointed as a Distinguished Expert for the Ministry of Public Security's Talent Introduction Program, Zhejiang Province's Distinguished Expert, and Beijing's Distinguished Expert.



Jing Yuan

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Professor of Zhejiang Normal University. He received his bachelor's degree from Wuhan University, master's degree from Peking University, and Ph.D. degree (with excellence) from the Department of Mathematics and Computer Science at Heidelberg University. He completed his twoyear postdoctoral research at the Department of Computer Science at Western University. His research interests are mathematical optimization and computational applications of medical image analysis. He published more than 100 papers in top academic journals and conferences, including nearly 50 papers (Chinese Academy of Sciences Zone 1&2), and more than 30 papers in top conferences such as CVPR, ECCV, AAAI, and MICCAI, with a total impact factor of over 300.



Aaron Fenster

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Professor and Chair of the Division of Imaging Sciences of the Department of Medical Imaging at Western University, Scientist at the Robarts Research Institute, Founder and past Director of the Imaging Research Laboratories (IRL) at the Robarts Research Institute & the interdisciplinary graduate Program in Biomedical Engineering, past Director of the Biomedical Imaging Research Centre. In 2020 he was honoured by being named to the Order of Ontario and in 2022 he was elected to the Royal Society of Canada. Fenster's laboratory has been pioneering the development of 3D ultrasound imaging and image-guided mechatronic interventional systems with some successfully translated into clinical use and to companies (14 licenses).



Fabio Roli

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Professor of Computer Engineering at the University of Genova and Cagliari. He is the founding Director of the Pattern Recognition and Applications laboratory at the University of Cagliari and codirector of the SmartLab at the University of Genova. He has been appointed Fellow of the IEEE & International Association for Pattern Recognition & Asia-Pacific Artificial Intelligence Association. He was a recipient of the Pierre Devijver Award for his contributions to statistical pattern recognition and 2020 "Pattern Recognition Medal" of the international journal Pattern Recognition.