CONFERENCE ABSTRACT

2024 9th International Conference on Biomedical Imaging, Signal Processing (ICBSP 2024)

October 18-20, 2024

Prince of Wales Hospital, Faculty of Medicine,

The Chinese University of Hong Kong

Sponsored by

Supported by

www.icbsp.org

Welcome Letter

Dear esteemed participants,

On behalf of the organizing committee, it is with great pleasure that we extend a warm welcome to all participants of the 2024 9th International Conference on Biomedical Imaging, Signal Processing (ICBSP 2024). It is sponsored by Biological & Environmental Engineering Society (HKCBEES) and Biology and Bioinformatics Society (BBS) under the HKCBEES, and supported by Polytechnic University of Bari, Guangxi University, Tiangong University, Guangxi Normal University, and Guangzhou University of Chinese Medicine. The conference is scheduled to take place in Prince of Wales Hospital, Prince of Wales Hospital, the Chinese University of Hong Kong, Jockey Club School of Public Health, Hong Kong, from October 18th to 20th, 2024.

ICBSP 2024 aims to provide a platform for leading academic scientists, researchers, and scholars to exchange insights, share experiences, and present their latest research findings in the field of Biomedical Imaging, Signal Processing. We are confident that this gathering will foster meaningful discussions, collaborations, and advancements in these critical areas of study.

Throughout the conference, attendees are able to engage with keynote speakers, invited speakers, industrial and academic workshops, and parallel sessions and so on. We encourage participants to actively participate in oral and poster sessions, presenting their high-quality original research and technical contribution, thereby enriching the conference with diverse perspectives and expertise.

We are honored to gather many leading researchers and industry experts from around the world, and we are excited to witness the exchange of insight and ideas that will shape the future of Biomedical Imaging, Signal Processing.

Once again, welcome to ICBSP 2024. We wish you a fruitful and enriching conference experience and hope that your time with us in Hong Kong will be both professionally rewarding and personally fulfilling.

Best regards,
Local Organizing Chair of ICBSP 2024
Prof. Wing-Kin Sung, The Chinese University of Hong Kong

Conference Venue

Prince of Wales Hospital, the Chinese University of Hong Kong, Jockey Club School of Public Health
Address: No. 30-32 Ngan Shing Street, Sha Tin, New Territories, Hong Kong
Website: https://www.med.cuhk.edu.hk/facilities/prince-of-wales-hospital

● **Transportation:**

✧ **Metro**
City One Station, Tuen Ma Line

✧ **Kowloon Motor Bus**
73A: from Wah Ming to Yu Chui Court
80K: from Sun Chui to Yu Chui Court
82K: from Mei Lam to Wong Nai Tau
84M: from Lok Fu to Chevalier Garden
85A: from Kowloon City Ferry to Kwong Yuen
86: from Wong Nai Tau to Mei Foo
89X: from MTR Kwun Tong Station to MTR Shatin Station

Please scan the QR code to learn more about location and transportation

✧ **Minibus**
505: from Sheung Shui San Fat Street to Sha Tin Yuen Chau Kok
804: from Kwong Yuen to Hin Keng
808: from Kam Ying Court to Prince of Wales Hospital
811: from Sui Wo Court to Yu Chui Court
813: from Shui Chuen O to Shek Mun Station

✧ **Taxi Stands**

1/F, Main Clinical Block and Trauma Centre

2/F, Old Block

✧ **Hourly Car Park**

2/F, Old Block：24 hours daily

● **Recommended Hotel:**

Regal Riverside Hotel

Website: https://www.regalhotel.com/en/regal-riverside-hotel

✧ Regal Riverside Hotel Special Rate

Booking Link: https://shorturl.at/Jk29a or you can scan the QR code:

Booking Deadline: **10 October 2024**

Please enter the discount code when booking: **ICBSP**

(Please note that there is Complimentary scheduled shuttle bus service to & from the Airport (one round trip, on first-come-first-serve basis). You can simply reserve the seat in the above booking link upon reservation)

● **Note:**

As the registration fee does not cover accommodation, it is suggested that an early reservation should be done.

Conference Committee

Honorary Chair
Prof. Huiyu Zhou, University of Leicester

General Chairs
Prof. David Zhang, The Chinese University of Hong Kong (Shenzhen)
Prof. Sri Krishnan, Toronto Metropolitan University
Prof. Tohru Kamiya, Kyushu Institute of Technology
Prof. Xuejun Zhang, Guangxi University

Program Chairs
Prof. Andrey Krylov, Lomonosov Moscow State University
Prof. Carlos M. Travieso-González, Universidad de Las Palmas de Gran Canaria
Prof. Carmine Pappalettere, Polytechnic University of Bari
Prof. Migyung Cho, Tongmyong University
Prof. Zhitao Xiao, Tiangong University

Local Organizing Chair
Prof. Wing-Kin Sung, Chinese University of Hong Kong

Publication Chairs
Assoc. Prof. Limin Zhang, Tianjin University
Prof. Zhenjun Tang, Guangxi Normal University

Publicity Chair
Dr. Fang Li, Nanyang Technological University

Technical Committee
Prof. Edmund Lai, Auckland University of Technology
Assoc. Prof. Nanguang Chen, National University of Singapore
Assoc. Prof. Jiunn-Lin Wu, National Chung Hsing University
Assist. Prof. Eyüp Burak Ceyhan, Bartin University
Assoc. Prof. Lina Yang, Guangxi University
Assist. Prof. Ching-yu Huang, Kean Unviersity
Assist. Prof. Tello Portillo Juan Pablo, Universidad del Norte
Dr. Hiren Karathia, University of Maryland
Dr. Francis Li, University of Salford
Assist. Prof. Dong-Hoon Lee, Yonsei University
Dr. Emi Yuda, Tohoku University
Dr. Tao Sun, Harvard Medical School
Assoc. Prof. Md Shoaib Bhuiyan, Suzuka University of Medical Science
Assist. Prof. Ceyda Nur Öztürk, Uludağ University

Lecturer Mashal Fatima, Riphah International University

Assoc. Prof. Dinesh Bhatia, North Eastern Hill University

Prof. Alejandro Frangi, University of Leeds

Assoc. Prof. Shinji Kawakura, The Kyoto College of Graduate Studies for Informatics

Prof. Shashidhar Tantry, PES University

Dr. Tee Yee Kai, Universiti Tunku Abdul Rahman

Assist. Prof. Kwan Ban Hoe, Universiti Tunku Abdual Rahman

Prof. Chun-Rong Huang, National Chung Hsing University

Assoc. Prof. Changqing Zhang, Tianjin University

Assoc. Prof. Wei-Min Liu, National Chung Cheng University

Assoc. Prof. Peiguang Jing, Tianjin University

Dr. Dmitry Sorokin, Lomonosov Moscow State University

Lecturer Xiaoke Hao, Hebei University of Technology

Lecturer Yanbei Liu, Tiangong University

Dr. Modris Greitans, Institute of Electronics and Computer Science

Assist. Prof. Yanmei Tie, Harvard Medical School

Assoc. Prof. Rekha Vig, The NorthCap University

Dr. Muhammad Amir Bin As'ari, Universiti Teknologi Malaysia

Dr. Khaldi Amine, Universite Kasdi Merbah Ouargla

Assoc. Prof. Chai Hong Yeong, Taylor's University

Prof. Lei Wang, Chinese Academy of Sciences

Prof. Zhiliang Qin, Shandong University

Assoc. Prof. JungHwan Oh, University of North Texas

Prof. Giovanni Pappalettera, Polytechnic University of Bari

Assoc. Prof. Mylène C.Q. Farias, University of Brasilia

Prof. Li Zhang, South-Central Minzu University

Dr. Jia-Sheng Rao, Beijing University of Aeronautics and Astronautics

Prof. Jui-chien Hsie, Yuan Ze University

Prof. Migyung Cho, Tongmyong University

Dr. Claudia Cianci, Polytechnic University of Bari

Dr. Ali Khan, Zhejiang Normal University

Dr. Francis Jesmar Perez Montalbo, Batangas State University

Assoc. Prof. Qiang Hou, China University of Geosciences

Assoc. Prof. Shaoyang Men, Guangzhou University of Chinese Medicine

Assoc. Prof. Md Kafiul Islam, Independent University

Prof. Chen Qiao, Xi'an Jiaotong University

Assoc. Prof. Pengfei Zhang, Tianjin University

Assoc. Prof. Chunqiang Yu, Guangxi Normal University

Assoc. Prof. Chenxi Li, Tianjin University

Prof. Jinchao Feng, Beijing University of Technology

Prof. Xiqiang Zheng, Voorhees University, United States

Asst. Prof. Muhammad Mohsin Khan, Sino-Pak Center for Artificial Intelligence

Assoc. Prof. Sam Payabvash, Yale University

Asst. Prof. Arren Matthew Antioquia, De La Salle University

Assoc. Prof. Nopadol Uchaipichat, Thammasat University
Dr. Fnu Neha, Kent State University
Prof. Arvind Bansal, Kent State University
Dr. Yingping Li, Xidian University

Agenda Overview

Online Test-Oct. 18, 2024, Friday (GMT+8)

Venue: Zoom	Duration
Test for: H2020, H2023, H3006, H2010, H2011, H2001, H1010, H1008	10:00-11:00

Arrival Registration-Oct. 18, 2024, Friday (GMT+8)

Arrival Registration & Conference Material Collection	Duration
Venue: Regal Riverside Hotel, Lobby on 1/F	10:00-16:00
Note: the arrival registration also can be done on **Oct. 19, 2024** in **Prince of Wales Hospital, the Chinese University of Hong Kong, Jockey Club School of Public Health**.	

Onsite Session-Oct. 19, 2024, Saturday (GMT+8)

Venue: PEC KCTCRC on G/F		Duration
Welcome Address	**Prof. Wing-Kin Sung, The Chinese University of Hong Kong**	09:00-09:05
Opening Remarks	**Prof. Stephen Kwok-Wing Tsui, The Chinese University of Hong Kong**	09:05-09:10
Keynote Speaker I	**Prof. David Zhang, The Chinese University of Hong Kong (Shenzhen)** Speech Title: "AI+ TCM: Research & Development"	09:10-09:50
Keynote Speaker II	**Prof. Limsoon Wong, National University of Singapore** Speech Title: "Illuminating the Twilight Zone of Protein Function Prediction"	09:50-10:30
Group Photo & Coffee Break		**10:30-10:55**
Keynote Speaker III	**Prof. Tohru Kamiya, Kyushu Institute of Technology** Speech Title: "AI Based Anomaly Detection on Medical Imaging"	10:55-11:35
Keynote Speaker IV	**Prof. Bing Zhang, Shanghai Jiao Tong University** Speech Title: "Gene Editing: A New Hope for Familial Cardiomyopathy"	11:35-12:15
Lunch - Seminar Rooms on 1/F		**12:15-13:30**

Venue: Seminar Room 1 on 1/F			Duration
Invited Speaker I	**Prof. An-Yuan Guo, West China Hospital, Sichuan University** Speech Title: "A Method for Predicting Drugs that Can Boost the Efficacy of Immune Checkpoint Blockade"		13:30-14:00
Venue: Seminar Room 1 on 1/F	**Venue: Seminar Room 2 on 1/F**	**Venue: Seminar Room 3 on 1/F**	**Duration**
Invited Speaker II **Prof. Pui-Chi Gigi Lo, City University of Hong Kong** Speech Title: "Enhancing the Tumor Specificity and Modulating the Oxygen Content for Advanced Photodynamic Therapy"	**Invited Speaker III** **Asst. Prof. Mengsha Tong, Xiamen University** Speech Title: "Tracing Unknown Tumor Origins with A Biological Pathway-based Transformer Model"	**Invited Speaker IV** **Prof. Jose Nacher, Toho University** Speech Title: "Advancing Network Controllability: Methods, Data Analyses, and Target Control in Complex Biological Networks"	14:00-14:25
Oral Session 1 -- Biomedical Image Segmentation and Image Reconstruction H0015-A, H2002, H2012, H2015, H2017, H3005	**Oral Session 2 -- Machine Learning Models for Biomedical Image Classification** H0026, H2003, H2006, H2013, H2019, H0029	**Oral Session 3 -- Medical Imaging and Computer Aided Diagnosis** H0014-A, H0038-A, H2007, H3003, H2021, H2022	14:25-15:55
Coffee Break			**15:55-16:15**
Venue: Seminar Room 1 on 1/F		**Venue: Seminar Room 2 on 1/F**	**Duration**
Oral Session 4 -- Gene Sequencing, Protein Sequence Prediction, and Biomarker Analysis H0030, H3004-A, H0013, H0044-A, H0046-A, H0045-A, H0017-A, H0003-A		**Oral Session 5 -- Biomedical Signal Processing and the Application of Machine Learning in Disease Diagnosis** H3001, H2004, H0036, H2018, H0040, H1001-A, H0047-A, H1009-A	16:15-18:15

Venue: Seminar Room 3 on 1/F	Duration
Poster Session -- Bioinformatics and Biomedical Image Processing H0010-A, H0006, H1005, H0005-A, H2005, H0034, H0039, H0043-A, H2016, H0009, H0004-A, H0014, H0027	16:00-18:00
Dinner - Seminar Rooms on 1/F	**18:30-21:00**

9

Online Session-Oct. 20, 2024, Sunday (GMT+8)

Venue: Zoom		Duration
Invited Speaker V	**Prof. Qiao Chen, Xi'an Jiaotong University** Speech Title: "Spatio-Temporal Deep Learning with Explainability"	09:00-09:25
Invited Speaker VI	**Assoc. Prof. Shinji Kawakura, The Kyoto College of Graduate Studies for Informatics** Speech Title: "Data-Acquisition and Data-Processing Methodologies Utilizing Machine Learning-Based, Particularly Deep Learning-Based Techniques in The Field of Various Human Sensing"	09:25-09:50
Invited Speaker VII	**Dr. Claudia Cianci, Polytechnic University of Bari** Speech Title: "Damage Source Localization by Acoustic Signal Processing: An Experimental Study on Clear Dental Aligners"	09:50-10:15
Break		**10:15-10:30**
Online Session	**Application of Biosensing Technology and Deep Learning in Disease Diagnosis** H2020, H2023, H3006, H2010, H2011, H2001, H1010, H1008	10:30-12:30

Tips:

Please arrive at the Conference Room or log in the ZOOM Room 15 minutes ahead of the session. The duration for Keynote Speech: about 35 minutes of presentation and 5 minutes of Q&A. The duration for the first Invited Speech of Prof. An-Yuan Guo: about 25 minutes of presentation and 5 minutes of Q&A. The duration for other Invited Speeches: about 20 minutes of presentation and 5 minutes of Q&A. The duration for Regular Presentation: about 12 minutes of presentation and 3 minutes of Q&A.