Health Data For All

How to Utilize HA Health Data for Multidisciplinary Grant Applications

6 DECEMBER 2021
10:30 AM - 12:30 PM
UGA, INNOPORT

研究及知識轉移服務處
Office of Research and
Knowledge Transfer Services

FOREWORD

To facilitate innovative research ideas and collaborations for healthcare policies and services, Hospital Authority Data Collaboration Laboratory (HADCL) has been set up to provide a collaboration platform between HA and external parties for conducting health data collaboration projects.

In order to promote the platform and the use of health data for multidisciplinary research, The Office of Research and Knowledge Transfer Services (ORKTS) invites four distinguished CUHK researchers who have been active users of HADCL platforms to share their insights of capitalizing on the health data supported by HADCL for their different research interests. The symposium aims to generate more future multidisciplinary collaborations and grant opportunities for all CUHK researchers.

RUNDOWN

10:30-10:35

OPENING REMARKS
Prof. Benny Zee Chung Ying
Director, Office of Research and Knowledge Transfer Services, CUHK

10:35-10:55

COLLABORATION BETWEEN PHYSICIANS AND DATA SCIENTIST IN UTILIZING HA HEALTH DATA: AN EXPERIENCE SHARING
Prof. Martin Wong Chi Sang
Professor, JC School of Public Health and Primary Care, CUHK

10:55-11:15

MACHINE LEARNING FOR LIVER CANCER PREDICTION WITH DATA FROM HADCL
Prof. Grace Wong Lai Hung
Professor, Department of Medicine and Therapeutics, CUHK

11:15-11:35

ARTIFICIAL INTELLIGENCE IN MRI RADIOLOGY: INTERACTION BETWEEN DATA AND MODEL RELIABILITY
Dr. Matthew Wong Lun
Research Assistant Professor, Department of Imaging and Interventional Radiology, CUHK

11:35-11:55

UTILIZING HOSPITAL AUTHORITY SHARED DATA TO EXPLORE A HYPOTHESIS FOR GRANT APPLICATION: AN EXPERIENCE SHARING
Prof. Marc Chong Ka Chun
Assistant Professor, JC School of Public Health and Primary Care, CUHK

11:55-12:20

PANEL DISCUSSION

12:20-12:30

REMOTE ACCESS TO HADCL DATA IN INNOPORT
InnoPort Team

SPEAKERS

PROF. MARTIN WONG CHI SANG

Professor, JC School of Public Health and Primary Care, CUHK
Professor (by courtesy), Department of Sports Science and Physical Education, CUHK
Adjunct Professor, School of Public Health, Peking Union Medical College
Adjunct Professor of Global Health, School of Public Health, Peking University

Professor Martin C. S. Wong is a specialist in Family Medicine and a researcher in the field of cancer screening and prevention of chronic diseases. Prof. Wong has composed over three hundred publications in international peer-reviewed journals, and received over 15 research awards for studies in his research area, including the prestigious "1st Distinguished Research Making Family Medicine Shine Award" by the World Organization of Family Doctors in 2018. In 2016, he was conferred as an Honorary Fellow by the Hong Kong Academy of Nursing to recognize his achievements in the profession and contributions to primary care. He was appointed as the Editor-in-Chief of the Hong Kong Academy of Medicine in 2017; and Fellows of various Academies, Royal Colleges and professional societies.

PROF. GRACE WONG LAI HUNG

Professor, Department of Medicine and Therapeutics, CUHK
Professor, Institute of Digestive Disease, CUHK
Director, Medical Data Analytics Centre (MDAC), CUHK
Deputy Director, Center of Liver Health, CUHK
Assistant Dean (Learning Experience), Faculty of Medicine, CUHK

Professor Grace Wong is a Professor in the department of Medicine and Therapeutics at the Chinese University of Hong Kong. Prof. Wong's main research interests include big data research in medicine, chronic viral hepatitis, liver fibrosis and liver cancer. She has published over 360 articles in peer-reviewed journals, and is currently the Director of CUHK Medical Data Analytics Centre (MDAC), the Editor-in-Chief of Hepatology (Hong Kong edition), and the Associate Editor for other academic journals. She has been awarded the Young Investigator Award of the Asian Pacific Association for the Study of the Liver in 2009, the Ten Outstanding Young Persons (TOYP) of Hong Kong in 2014, the Richard Yu Lectureship of the Hong Kong College of Physicians in 2021 and so forth.

DR. MATTHEW WONG LUN

Research Assistant Professor, Department of Imaging and Interventional Radiology, CUHK

Dr. Lun M. Wong is an academic specialized in analytical radiology research, specializing in artificial intelligence (AI). He obtained his PhD degree from the Department of Imaging and Interventional Radiology of The Chinese University of Hong Kong and is currently serving as a Research Assistant Professor in the same department. His research interest focused on investigating the applications of AI, including deep learning and radiomics, in managing cancers of the complex region of the head and neck. His major field of work involved tailoring artificial neural networks to detect, segment and characterize nasopharyngeal carcinoma on plain MRI sequences.

PROF. MARC CHONG KA CHUN

Assistant Professor, JC School of Public Health and Primary Care, CUHK
Assistant Professor (by courtesy), Department of Obstetrics and Gynaecology, CUHK
Associate Researcher (by courtesy), Shenzhen Research Institute, CUHK

Dr. Marc Chong is currently an Assistant Professor in the JC School of Public Health and Primary Care, the Chinese University of Hong Kong. Dr. Chong has worked as a biostatistician in the Centre for Clinical Research and Biostatistics since 2006, possessing rich experience in conducting various statistical analysis of academic and industrial clinical trials. He has also been a statistical consultant for different consultation projects, such as Development of Refined Population-based Model to Inform Resource Allocation, Surgical Outcomes Monitoring and Improvement Programme, and Intensive Care Units Outcomes Monitoring Program held by Hospital Authority.

ABSTRACTS

Collaboration Between Physicians and Data Scientist in Utilizing HA Health Data: An Experience Sharing
By Prof. Martin Wong Chi Sang

Physicians involved in clinical research often employ pre-determined strategies to conduct their studies, whilst the approach adopted by a data scientist may be different. Prof. Martin Wong will share how his mindset has been enlightened by collaboration with a data scientist through a joint collaborative effort to use the HA Health Data, including the opportunities, challenges encountered, and future perspective to advance their research agendas.

Machine Learning for Liver Cancer Prediction with Data from HADCL
By Prof. Grace Wong Lai Hung

Hospital Authority Data Collaboration Lab (HADCL) provides researchers with very comprehensive clinical data, tools, platforms, health informatics and professional support. Prof. Grace Wong will share her experience on how to tap on this data technology platform for innovation in health informatics and its huge potential for the development of artificial intelligence and machine learning. She will introduce how deep learning models are developed and explain how the newly developed Uncertainty-Aware Convolutional Recurrent Neural Network (UA-CRNN), through introducing the uncertainty information in the generated data, outperforms traditional methods in liver cancer prediction.

Artificial Intelligence in MRI Radiology: Interaction between Data and Model Reliability
By Dr. Matthew Wong Lun

Breakthroughs in artificial intelligence (AI) and big-data analysis lately have prompted extensive research of their applications in radiology. Deep learning and radiomics are the two main AI-based techniques investigated. Dr. Matthew Wong will introduce some of the pitfalls that these AI techniques can suffer from in radiology when there is a lack of data variety and discuss strategies to improve the reliability and generalizability of the trained models with a focus on MRI.

Utilizing Hospital Authority Shared Data to Explore a Hypothesis for Grant Application: An Experience Sharing
By Prof. Marc Chong Ka Chun

As announced in the Chief Executive's 2017 Policy Address, Hospital Authority (HA) has launched a Data Collaboration Laboratory (HADCL) which encourages researchers to generate ideas for healthcare related research using their shared population-wide data. In HADCL, a Self-service Data platform is provided to local researchers in assisting them for drafting research hypothesis and proposals. Dr. Marc Chong will share his experience in engaging in the Self-service Data platform and the ways it helps generate pilot findings for a competitive grant application.