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Dr. Lui Che Woo Distinguished Professor Public Lecture 呂志和博士創新醫學傑出教授公開講座

Big Biobanks, Big Data and Big Opportunities

Professor Zhengming Chen, MBBS DPhil
*Professor of Epidemiology
Nuffield Department of Population Health
University of Oxford, UK*

**6 January 2017 (Friday)
5:30 pm**

Shaw Auditorium, 1/F
Postgraduate Education Centre, Faculty of Medicine
The Chinese University of Hong Kong
Prince of Wales Hospital, Shatin, New Territories

**Registration: <https://goo.gl/Xr3Gcn>
Deadline: 30 December 2016**

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About the Speaker



Prof. Zhengming Chen
*Professor of Epidemiology
Nuffield Department of Population
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Professor Zhengming Chen is the lead principal investigator of the China Kadoorie Biobank, the world's largest blood-based prospective study ever established. He qualified in medicine at the Shanghai Medical University (SMU, now Fudan University) in 1983. He subsequently completed public health postgraduate training in the School of Public Health, SMU and gained his DPhil in Epidemiology at the University of Oxford in 1993. He currently holds the position of Professor of Epidemiology at the University of Oxford, and honorary professorships of Peking Union Medical College, Fudan University and Shanghai Institute of Biological Sciences, Chinese Academy of Sciences. He is the founding co-director of the China Oxford Centre for International Health Research.

Professor Chen's research has focused on the environmental, lifestyle and genetic determinants of chronic disease, development of evidence-based medicine and efficient strategies for chronic disease control in developing countries. Although based in Oxford, his research has mainly involved nationwide projects in China. In total, these probably represent the largest epidemiological collaboration in the world between China and other countries. They have provided, and will continue to do so, important results relevant to both Chinese and global health. Over the last 25 years, he has led large placebo-controlled trials involving in total 60,000 acute heart attacks and 20,000 strokes, leading to major changes of international guidelines and new US FDA drug labelling. He has also led large observational epidemiologic studies of the relevance to health of tobacco, alcohol, adiposity, blood pressure, and diet. In particular, he initiated and has led the China Kadoorie Biobank study since 2002, which includes 512,000 adults enrolled during 2004-08 from 10 diverse areas in China. He has published over 230 peer-reviewed papers, with many highly cited (e.g. ~5000 citations for the top 5 papers), and also sits on various research committees.

Abstract of the Lecture

Chronic diseases, such as stroke, heart disease, cancer and diabetes, are the leading causes of disability and death worldwide. Despite recent advances, our ability to prevent and treat these conditions is still limited. Understanding what causes these diseases in diverse populations with different lifestyles, environments and genetic architectures can lead to improved disease prevention and risk prediction, and the development of "precision medicine". Unique opportunities to fulfill these goals are offered by prospective "biobank" studies, with detailed characterization of large numbers of apparently healthy individuals from the general population, using conventional and novel technologies, and with electronic monitoring of their health status. In the last decade, many large prospective biobank studies of global significance (e.g. US PMI cohort, UK Biobank) are being or have been assembled. China Kadoorie Biobank (CKB) is one of the world's largest studies of this kind, involving 512,000 adults recruited during 2004-08 from 10 diverse areas in China, with extensive data collected at baseline and periodic resurveys, on lifestyle, environmental, and physiological factors, and with long-term storage of biological samples. To date, >0.5 million fatal and non-fatal disease events of >1000 different types (e.g. stroke, heart disease, cancer, diabetes, fracture, cataract and rheumatoid arthritis) have been recorded among participants. These exposure and health outcome data are now being complemented by blood assays of genetic (e.g. 10 million variants), metabolomic (e.g. ~250 metabolites), proteomic (e.g. ~100 inflammation biomarkers) and infective biomarkers, with many novel findings starting to emerge. The uniquely powerful and rich resources in CKB and other big biobanks will enable scientists to make many important discoveries relevant to risk prediction, disease prevention and treatment, benefiting populations worldwide.

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