香港數學教育學會
Hong Kong Association for Mathematics Education

香港都會大學
教育及語文學院
Hong Kong Metropolitan University
School of Education and Languages

香港數學教育會議 2025
Hong Kong Mathematics Education Conference 2025

地點：香港都會大學 賽馬會校園
Venue: Jockey Club Campus, Hong Kong Metropolitan University

主題演講（一）Keynote Speech 1
今日數學教育的機遇與挑戰（英語發表）
Opportunities and Challenges Facing Mathematics Education Today (To be conducted in English)

	Prof. Frederick Koon Shing Leung, BBS Professor, College of Education for the Future, Beijing Normal University; Emeritus Professor, the University of Hong Kong	Frederick K.S. Leung, BBS, is Professor at the College of Education for the Future, Beijing Normal University. Until August 2024, he was Chair Professor and Kintoy Professor in Mathematics Education at The University of Hong Kong (HKU). Professor Leung was named a Changjiang Scholar, conferred an Honorary membership by the International Association for the Evaluation of Academic Achievement (IEA), appointed a Senior Fulbright Scholar in 2002, awarded the Hans Freudenthal Medal for 2013, and received the World Outstanding Chinese Award in 2015. His major research interests are in comparison of mathematics education in different countries, and in the influence of culture on teaching and learning. He is at present the national project manager for Hong Kong in OECD's *Programme for International Student Assessment* (PISA), and was principal investigator of the Hong Kong component of the *Trends in International Mathematics and Science Study* (TIMSS), *TIMSS Video Study*, and *Learner's Perspective Study* (LPS). He was also international consultant for a number of World Bank, UNESCO and United Nations Development Programme (UNDP) projects in education. Professor Leung was Dean of the Faculty of Education, and Dean of the Graduate School at HKU. He was also President of the International Commission on Mathematical Instruction (ICMI) 2021-2024.
	梁貫成教授, BBS 北京師範大學未來教育學院教授 香港大學教育學院榮休教授	梁貫成教授簡介 梁貫成，香港特別行政區銅紫荊星章（BBS），現任北京師範大學未來教育學院教授。至 2024 年八月，他曾任香港大學講座教授、健泰基金教授（數學教育）。梁教授被授予國家教育部長江學者講座教授，國際教育成就評價協會（IEA）榮譽會員，於 2002 年獲福布萊特獎，於 2013 年度獲費萊登特爾獎，並於 2015 年度獲世界傑出華人獎。他主要研究範圍包括：數學教學及學習、數學教育比較研究、文化對數學學習的影響等。曾擔任國際數學及科學趨勢研究（TIMSS）、TIMSS 錄像研究、學習者視角研究（LPS）及國際學生能力評估計劃（PISA）的香港區首席研究員，他還曾擔任世界銀行及聯合國教科文組織（UNESCO）和聯合國開發計劃署（UNDP）專家顧問、香港大學教育學院院長、香港大學研究院院長等職，以及國際數學教育委員會（ICMI）2021-2024 年度主席。

Opportunities and challenges facing mathematics education today

Frederick K.S. Leung

Professor, College of Education for the Future, Beijing Normal University
Emeritus Professor, The University of Hong Kong

Abstract

Classroom teachers around the world, including those in Hong Kong, usually have their minds narrowly focussed on their everyday teaching, which is understandable. But this presentation maintains that students today are actually living in a world which is drastically different from students in earlier generations, and a professional teacher needs to confront issues beyond the classroom. The presentation will start with outlining a number of worldwide challenges facing mathematics education today in the context of macro issues such as global inequalities and worldwide health problems. These issues touch on the socio-cultural aspects of mathematics education; educational inequalities in mathematics; internationalization versus indigenization of the mathematics curriculum; understanding global issues such as the pandemic; and the impact of recent technological developments such as generative AI on mathematics teaching and assessment. It is argued that these challenges at the same time provide golden opportunities for us mathematics educators to fundamentally reflect upon what mathematics education is about, and the implications of these challenges for the mathematics curriculum and classroom teaching. In essence, it is an opportunity to re-address the issue of the relevance of mathematics to the student and to society. The contributions of mathematics in addressing the macro world challenges may be indirect, but at school level, mathematics should at least facilitate students' understanding of the underlying issues, which is a pre-requisite for arriving at innovative solutions to the problems. A consideration of these challenges and opportunities forces us to reflect on the fundamental question of what purposes mathematics education serves.

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主題演講（二）Keynote Speech 2
數學教學在創新科技中的變與恆（英語發表）
Variation and Invariance in Technological Innovation for Mathematics Instruction (To be conducted in English)

	Dr. Arthur Lee Lecturer, Faculty of Education, The University of Hong Kong	Dr. Arthur Lee is a lecturer in the Faculty of Education, The University of Hong Kong and was the director of the Postgraduate Diploma in Education Programme. He also studied in the same faculty for the PGDE, MEd and PhD, while developing his interest in mathematics education as a teacher in secondary school and university since 1988. In his early years of teaching, he learned a lot from the activities of the Hong Kong Association for Science and Mathematics Education and the Hong Kong Association for Mathematics Education. Over the years, he worked with many educators in these organisations in various projects and events of professional development. He is a co-founding member and the current president of the GeoGebra Institute of Hong Kong. It is another community of mathematics teachers which promotes the use and design of teaching resources and tasks with different kinds of digital tools, such as GeoGebra, Desmos and Polypad.
	李文生博士 香港大學教育學院講師	李文生博士簡介 李文生，現職香港大學教育學院講師。香港數學教育學會、香港數理教育學會及香港 GeoGebra 學院成員。曾多次主持這些機構舉辦的講座和工作坊。近年參與多個有關數學教育的服務計劃，透過課業設計來幫助數學老師面對課堂上的學習差異。

Variation and Invariance in Technological Innovation for Mathematics Instruction

Arthur M.S. Lee

Lecturer, Faculty of Education, The University of Hong Kong

Abstract

Technological tools for mathematics teaching and learning have been around us for more than three decades. Over this period, we never stop seeing new digital resources, which are getting more and more powerful, sophisticated and accessible. However, if we focus on the basic features, the tools we use nowadays are probably not much different from those originated in the 1990s, when we began to use dynamic geometry, graphing tools, dynamic statistics, spreadsheets and virtual manipulatives. More important, are we really developing more effective, meaningful and relevant technology-supported mathematics pedagogy in our everyday classrooms together with all sorts of innovation in the curriculum resources we keep making? Drawing on my experience of teacher training and lesson observation, I will share my view on the common teaching approaches with digital tools, how far they have changed or remained unchanged amidst growing complexity in our resources, learning environments and educational aims. Perhaps, with this reflection on our journey so far, we could be more prepared to face our challenges in the future.