

Mathematics, Society and Education Lecture Series: Debates about the Universalism of Mathematics - Local Origins, Global Spread, Ethnomathematics, Colonialism Claims

Date: 10 Dec 2024 (Tue)

Time: 10:30 -12:00

Venue: Auditorium, University Gallery (E1 Ground Floor)

Language: English

Registration: Online Registration (<https://go.um.edu.mo/v269f8yg> or



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Speaker:

Prof. Gert Schubring, a recipient of the 2019 Hans Freudenthal Medal from ICMI, has made remarkable contributions to the field of mathematics education history over four decades. As a long-time member of the Institut für Didaktik der Mathematik at Bielefeld University, Germany, and visiting professor at the Universidade Federal do Rio de Janeiro, Prof. Schubring pioneered research that emphasized the importance of social context in studying mathematics education history. His work spans multiple areas, including groundbreaking research in mathematics textbook analysis, particularly in Latin America, and building bridges between mathematics history and education communities.

Prof. Schubring played pivotal roles in establishing the field's academic foundation by founding the International Conference on History of Mathematics Education (ICHME) and serving as the founding editor of the International Journal for the History of Mathematics Education. His influential publications, including "The Legacy of Felix Klein" (2019) and "Generalization, Rigor and Intuition" (2005), have helped shape our understanding of how mathematical knowledge is viewed across different cultures and time periods. Prof. Schubring's work not only established the social history of mathematics education as a scholarly field, but also continues to provide valuable insights for current teaching practices and future educational directions.

Abstract:

There is an overwhelming general conviction that mathematics constitutes a universal, globally valid science. Its theorems and proofs are generally accepted, there is no contestation of their validity – once accepted in the mathematical community. Yet, it is difficult to explain how this universal character did emerge – except for those who adhere to Platonism and its world of pre-established ideas. In fact, upon turning oneself aware that the first mathematical conceptions arose in the valleys of big rivers – Yangtze (China), Indus (India), Nile (Egypt), the two rivers of Mesopotamia – and considering also the Maya-culture in Central America, thus without any communication between these enormously distant regions, one will doubt how a common communication and shared understanding could have resulted.

Already the next civilization of a high degree, the Greek one, developed its mathematics on the basis of interacting with two of the earlier ones, the Mesopotamian and the Egyptian. Here, however, one remarks discontinuities in cultural and scientific developments; after the end of the Hellenistic period, showing even more interactions, there occurred even an interruption. Mathematics was taken up again, in another civilisation, the Islamic, obtaining strong incitation by translations of Greek works.

It was again communication and transmission, which made emerging mathematics in different regions – in various states of Western Europe. Yet, these developments were far from being homogeneous – different epistemologies and styles led for several centuries there to a coexistence of differing mathematical communities. Thus, our conviction of a universal mathematics is of a rather recent origin – arising during the 20th centuries, aligned to also a political globalisation.

Given this more recent development, one has to be aware of certain new movements, challenging this universalism: there is ethnomathematics, questioning the unicity of presently dominating mathematics, and decoloniality, denouncing it as euro-centrism. Its advocates are not aware, however, of other centrisms like sino-centrism. Given the recent outbreak of indo-centrism, this seminar will discuss a series of critical issues for the understanding of mathematics.