# International Cooperation Development in Mathematics Education
# The ICDME -Tsukuba Conference 2023



**Date:**              ~~(10 – 11 February 2023)~~ **Revised Dates:** 14 – 15 April 2023

**Venue:**               University of Tsukuba

**Conference Host**:    Center for Research on International Cooperation in Educational Development (CRICED), University of Tsukuba, Japan

**Conference 2023 website**:  To be announced once the website is ready

**Conference email**:   icdme.conference@gmail.com

**Introduction:**

The ICDME-Tsukuba Conference 2023 intends to follow-up on the success of the 2022 Conference, to continue to deliberate on the issues and challenges in international cooperation on mathematics education.

The ICDME-Tsukuba Conference 2022 was an extension of the work of Topic Study Group 61 (TSG 61) at the 14th International Congress on Mathematical Education (ICME 14). The Conference forms part of ICDME's plans to initiate a community in international cooperation development whose interest is in the realization of quality mathematics education as a public good for society. Details and presentations of the ICDME-Tsukuba Conference 2022 can be found at the Conference website (https://www.criced.tsukuba.ac.jp/icdme/2022/).

**Purpose of the Conference**

1. To serve as a platform for policy-makers, scholars and practitioners to discuss issues, challenges, strategies and solutions in international cooperation in mathematics education.
2. To create a community of policy-makers, scholars and practitioners to regularly meet to discuss matters related to international cooperation development in mathematics education.

**Conference Mode:**   Fully online

**Official Language of the Conference:** English

**Conference Theme:** Issues and challenges of international cooperation in mathematics education

**Sub-themes:**

1. **Universal and local contexts of the mathematics curricula.**
2. **Transitions across the various levels of the mathematics curriculum.**
3. **Challenges of the pandemic and post-pandemic era on the teaching and learning of mathematics**

**Background**

**Sub-theme 1:**

Mathematics is generally accepted as a universal language. Further, the influence of globalization and internationalization have given rise to the notion that there is uniformity in the mathematics curricula worldwide. Curricular ideas are thus widely shared and adopted in the development of the mathematics curriculum. However, the mathematics curricula are developed locally. Consequently, the success of the implementation of the mathematics curriculum is dependent on both exogenous and endogenous factors. The issue and challenge in international cooperation is how this synchronization and adaptation of curricular ideas can be best implemented by taking into account both the universal and local contexts to ensure effective results.

**Sub-Theme 2:**

"Learning can be described as a process of transition" (Gueudet et al., 2016, p. ix). As learners, both teachers and students, can be expected to face difficulties as they transition through the various levels of the mathematics curriculum, from early childhood through to the tertiary level. These difficulties cover a broad spectrum of issues, ranging from difficulties in the area of learning and teaching, to psychological and sociological transitions experienced by the learners and institutional changes that have been adopted from time to time. The foundations adopted in the mathematics curricula from early childhood to tertiary levels also undergo transitions; from practical to theoretical to axiomatic (Tall, 2014), often leading to transitional challenges for learners. The issue and challenge in international cooperation is how the agents; teachers, practitioners and students alike, can be supported to overcome these transitions in the mathematics curriculum.

**Sub-theme 3:**

The COVID-19 pandemic which began in 2019, has caused disruptions in education globally, primarily caused by prolonged school closures. Face-to-face became impossible during this time. Teacher, administrators and students face difficulties trying to adapt to new modes of interaction. This leads to the question in international cooperation of how the teaching and learning of mathematics can be supported during the pandemic.

**Note:**
The background of the sub-themes aims to serve as a guide for interested educators to understand the background of the issues and to actively participate as presenters in the Conference discussions. Interested participants with differing perspectives/interpretations concerning the sub-themes are also welcome to present their alternative views.

**References:**

Cai, J., & Howson, G. (2013). Toward an international mathematics curriculum. In M.A. Clement, A.J. Bishop, C. Kietel, J. Kilpatrick & F.K.S. Leung (Eds.), *Third international handbook of mathematics education*, (pp. 949 – 974). Springer.

Gueudet, G., Bosch, M., diSessa, A. A., Kwon, O. N., & Verschaffel, L. (2016). *Transitions in mathematics education.* Springer.

Karp, A. (2013). From the local to the international in mathematics education. In M.A. Clement, A.J. Bishop, C. Kietel, J. Kilpatrick & F.K.S. Leung (Eds.), *Third international handbook of mathematics education*, (pp. 797 – 826). Springer.

Tall, D. (2014). *How humans learn to think mathematically: Exploring the three worlds of mathematics.* Cambridge University Press.

**CONFERENCE PROGRAMME:**

The ICDME-Tsukuba 2023 Conference programme will include keynote speakers, panel discussions and short oral presentations.

**CALL FOR PRESENTERS**

Policy-makers, scholars and practitioners are cordially invited to make short oral presentations based on the sub-themes of the Conference. Each oral presentation is expected to be about 10 minutes in duration. Intending participants are required to submit a one-page summary of the presentation (more pages may be necessary if figures and tables are included but not more than 2 pages). Deadline: ~~31 Dec. 2022~~ **Revised deadline: 28 Feb. 2023.**

In the submission, please state:

1. Your name
2. The sub-theme
3. Your affiliation
4. Title of your presentation
5. Summary of your presentation

**Please submit your one-page summary to:** icdme.conference@gmail.com

**Registration: Free**

**CONFERENCE ORGANISERS:**

**International Programme Committee:**

- Ui Hock Cheah (Penang Maths Platform, Malaysia)
- Masami Isoda (CRICED, University of Tsukuba, Japan)
- Arne Jakobsen (University of Stavanger, Norway)
- Bernadette Denys (Paris Diderot University, France)
- Yuriko Yamamoto Baldin (Universidade Federal de São Carlos, Brazil)
- Mercy Kazima (University of Malawi, Malawi)

**Local Organising Committee:**

- Masami Isoda (CRICED, University of Tsukuba, Japan)
- Takuya Baba (Hiroshima University, Japan)

For enquiries on Conference matters, please contact us at: icdme.conference@gmail.com