UNIVERSITÀ DEGLI STUDI DI MILANO
DIPARTIMENTO DI MATEMATICA
"FEDERIGO ENRIQUES"

erme
european society for research in mathematics education

**ERME Topic Conference (ETC24)**

# Argumentation and Proof in the Teaching and Learning of Mathematics and Interactions with Other Disciplines

**June 22–25, 2026 – University of Milan, Italy**

**https://mathpie2026.sciencesconf.org**

## First Announcement

We are pleased to announce "Argumentation and Proof in the Teaching and Learning of Mathematics and Interactions with Other Disciplines" (MATHPIE2026) an ERME Topic Conference supported by the European Society for Research in Mathematics Education (ERME). The conference will be held on 22–25 June 2026 at the Department of Mathematics, University of Milan, Italy. This event originates from the long-standing TWG1 on Argumentation and Proof, which has been part of every CERME conference since 2003, and it draws upon collaborative work across CERME TWGs, such as TWG11 - Teaching and Learning of Discrete and Computational Mathematics, and TWG25 - Teaching and Learning of Calculus. We welcome submissions focusing on argumentation and proof in mathematics education in interactions with other disciplines, including Physics, Computer Science, Biology, Linguistics, Philosophy, and others.

### *Conference topic*

Argumentation and proof are widely studied in mathematics education in Europe and beyond at every level of the curriculum from primary school to university (Moutsios-Rentzos et al., 2023; Shinnno et al., 2024; Stylianides et al., 2024), including advanced university mathematics (Biehler et al., 2024; Durand-Guerrier et al., 2012). There are commonalities in how argumentation and proof are conceptualized, taught, and studied across these educational systems. However, there are also significant differences depending on when and how argumentation and proof are introduced as an official curricular topic, as well as from what perspective (e.g., as a tool or an object). This diversity creates rich research opportunities.

This conference aims to expand the scope of topics even further by considering the need and the relevance for developing research on argumentation and proof in mathematics education in interactions with other disciplines. This has been a growing area of interest with studies examining argumentation in proof in mathematics with connection with other disciplines, such as Physics (Branchetti et al., 2022; Moutsios-Rentzos, 2023), Computer Science (Buchbinder et al., 2025; Durand-Guerrier et al., 2019), Biology (Hellgren et al., 2025), Linguistics (Prediger & Hein, 2017), Philosophy (Hanna & Larvor, 2020; Hamami, 2025), and others.

***Conference structure***

Mathpie 2026 will comprise: plenary lectures, an expert panel, five thematic working groups, a poster exhibition, and early career researcher events. The aim of the thematic working group sessions and the workshop is to facilitate in-depth discussions and exchanges on theoretical background and methodologies, empirical results, comparisons, and to identify possible further collaborations. See the website for specific guidelines.

The thematic working groups and workshop sessions will be devoted to in-depth interaction between participants in the ERME spirit of the 3 Cs (*Communication, Collaboration, Cooperation),* fostering exchange on theoretical frameworks and methodologies, sharing and discussing empirical results, comparisons between educational systems, identification of possible further collaborations, and so on.

Half a day prior or after the conference will be dedicated to promoting young career researchers; this will be discussed with the YERME representative in the ERME board who is a member of the IPC. In addition, there will be specific attention to the active involvement of young career researchers in all the activities during the conference.

***Conference themes***

Mathpie 2026 aims to foster rich dialogue on the role of argumentation and proof within and beyond mathematics, and we especially encourage work that explores the opportunities and challenges of interdisciplinary research in this domain.

We welcome submissions that address argumentation and proof in the teaching and learning of mathematics at all educational levels—from primary to university—as well as in teacher education and professional development. Submissions may explore theoretical, empirical, comparative, or interdisciplinary dimensions. Given the focus of Mathpie 2026, we particularly encourage authors to submit work conducted at the intersections between mathematics education and other disciplines, highlighting new opportunities and challenges in interdisciplinary research. Within this perspective, submissions may engage with a variety of perspectives and research approaches, and are particularly encouraged to address one or more of the following thematic areas:

- Theoretical explorations of argumentation and proof in mathematics education
- Empirical studies on students' or teachers' engagement with mathematical reasoning and proof
- Comparative research across educational systems or cultural contexts
- Curricular and instructional design focused on argumentation and proof
- Interdisciplinary research connecting mathematics education with Physics, Computer Science, Linguistics, Philosophy, Biology, and other disciplines.
- Teacher knowledge, beliefs, and practices related to proof and reasoning
- Historical, epistemological, or philosophical analyses of proof and argumentation in mathematics education

***Proposal submission***

Submissions should comply with the CERME template, which will be used in proceedings as well. The selection of proposals will be done through a peer review, as in the CERME conferences.

The main language of the conference is English. There is the possibility to submit and present a paper in Italian with an abstract in English, provided the presenter considers how to address the conference audience in its linguistic diversity through slides or a handout in English.

*La lingua principale della conferenza è l'inglese. È possibile inviare e presentare un contributo in italiano, a condizione che il/la presentatore/presentatrice tenga conto della diversità linguistica del pubblico della conferenza, ad esempio attraverso le slide o un handout in inglese.*

As part of ERME's widening participation initiatives, contributors who would like to receive the pre-submission support in writing their proposal should contact MATHPIE 2026 (mathpie2026@sciencesconf.org) no later than October 1st.

Preconference proceedings will be available to registered participants. The final proceedings will be available online on the HAL archive after the conference.

***Timeline***

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| October 1, 2025 | Due date for requesting pre-submission support |
| October 1, 2025 | Submissions open |
| December 2, 2025 | Due date for Submissions |
| January 26, 2026 | Due date for Reviewers to submit their reviews |
| February 27, 2026 | Decisions sent to contributors |
| March 2, 2026 | Registration opens |
| April 15, 2026 | Revised versions |
| May 27, 2026 | Pre-Proceedings available online |
| June 22 – 25, 2026 | Conference in Milan |

***Organising Committee (OC)***

Andreas Moutsios-Rentzos (Greece), Leader of TWG1 in 2023 & 2025, chair of the IPC
Orly Buchbinder (USA), Co-leader of TWG1 in 2023 & 2025, co-chair of the IPC
Laura Branchetti (Italy), Leader of the TWG 25 in 2025, chair of the LOC
Nadia Azrou (Algeria), Co-leader of TWG1 in 2023 & 2025
Fiene Bredow (Germany), Co-leader of TWG1 in 2023 & 2025
Dimitrios Deslis (Greece), Co-leader of TWG1 in 2023 & 2025
Viviane Durand-Guerrier (France), Co-leader of TWG1 in 2023 & 2025, OC Coordinator
Simon Modeste (France), Leader of the TWG 11 in 2025
David Reid (Norway), Co-leader of TWG1 in 2023 & 2025

***International Programme Committee (IPC)***

Andreas Moutsios-Rentzos (Greece; IPC chair)
Orly Buchbinder (USA; IPC co-chair)
Laura Branchetti (Italy; LOC chair)
Nadia Azrou (Algeria)
Fiene Bredow (Germany; Young Researcher)
Paola Cantù (France)
Dimitrios Deslis (Greece; Young Researcher)
Viviane Durand-Guerrier (France)
Christine Knipping (Germany)
Luca Lamanna (Italy; ERME Board Representative, Young Researcher)
Takeshi Miyakawa (Japan)
Simon Modeste (France)
David Reid (Norway)

***Local organising committee (LOC)***

Laura Branchetti (Univ. of Milan; LOC Chair)
Luca Lamanna (Univ. of Milan)
Miglena Asenova (Univ. of Milan)
Sandra Mantovani (Univ. of Milan)
Sara Gagliani Caputo (Univ. of Milan)
Ottavio Giulio Rizzo (Univ. of Milan)
Violetta Lonati (Univ. of Milan)

***Guidelines for submitting a proposal***

The website https://mathpie2026.sciencesconf.org/ will open for submissions on October 1, 2025.

Please format your proposal following the CERME template. We note that proposals not using this format in full may not proceed to the peer review stage.

All proposals must employ APA7 style for in-text citations and referencing (https://apastyle.apa.org/style-grammar-guidelines/references/examples)

**Papers**: Maximum of ten pages, including references, figures, and appendices.

**Workshops**: Maximum of five pages, including references, figures, and appendices. A proposal for a workshop should include a detailed description of the activities planned for participants.

**Posters:** Maximum of 2 pages, including references, figures, and appendices.

Refer to the website for detailed guidelines on each type of submission.

**Important dates:**

- Please submit your proposal by 2nd of December, 2025.
- All proposals will undergo a peer review process. You will be informed about whether your proposal has been accepted for pre-conference publication on 27th of February, 2026.
- In the case that the acceptance of your proposal is conditional on revisions, you are expected to submit the revised version of your proposal by 15th of April, 2026.

## References


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