

CERME 14: Thematic Working Group 01 **Argumentation and Proof**

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Scope and focus of the Working Group

The increased role and importance of argumentation and proof in mathematics education have led to a variety of approaches to research in this area. The papers presented at past ERME Conferences illustrate this diversity by intertwining educational issues with mathematical, logical, historical, philosophical, epistemological, psychological, curricular, interdisciplinary, anthropological, and sociological viewpoints. Thematic Working Group 01 aims to offer participants this richness of perspectives, to provide opportunities for discussions that may stimulate comparison or integration of perspectives, and to create venues for collaborations on issues of argumentation and proof.

Call for papers and poster proposals

We invite research-based papers that discuss empirical, theoretical, methodological, or philosophical issues pertaining to argumentation and proof and their teaching and learning. We welcome papers that address, but are not limited to, the following foci:

- Explanation, justification, conjecturing, reasoning, argumentation and proof, and their relationships in mathematics and in mathematics education.
- The role and interplay of language and logic in teaching, learning, and analysis of argumentation and proving processes.
- The design and analysis of instructional materials or interventions that foster argumentation and proof across curricula, from kindergarten to university, including teacher training.
- Theoretical, philosophical and methodological perspectives on educational research on argumentation and proof, as well as analytic tools and methods of inquiry.

The above examples, as well as other issues, will be considered from a range of viewpoints:

- Historical, philosophical, epistemological, disciplinary, and interdisciplinary.
- Cognitive, affective, embodied, multimodal, social, and cultural.
- Technological, including computer science, extended reality, and artificial intelligence.
- Educational, focused on student engagement, intervention design, teacher preparation specific to proof, and enactment of argumentation and proving in classrooms.
- Curricular, considering the role of argumentation and proof in curricular and policy resources.

Papers and poster proposals *must use the CERME template*, and conform to the guidelines at <https://www.cerme14.it/>. CERME 14 uses an electronic submission system <https://www.conftool.pro/cerme14/>. The authors submit the initial version of their paper on the website (uploading it both as a .doc and a .pdf file, and providing the required information, in particular the TWG number).

Reviews and decisions

Each paper will be peer-reviewed by two persons from among those who author papers to this TWG. *All co-authors* can be asked to review up to two papers. The group leaders will decide about the acceptance of posters.

Important dates

- See <https://www.cerme14.it/> for important dates.