

CERME 13: Thematic Working Group 06 Applications and modelling

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Scope and focus of the Working Group

The thematic working group on applications and modelling (TWG6) focuses on investigating and exploring the role and use of mathematics when it is used and applied in the study of real-world phenomena and situations in educational contexts. TWG6 considers various aspects of the interplay between empirical research results and theoretical approaches to the teaching and learning of applications and mathematical modelling, in mathematics and other subjects, at primary, secondary and tertiary school levels, as well as in teacher education.

Call for papers and poster proposals

In TWG6, we welcome theoretical, methodological, and empirical research papers and posters that address one or more of the following topics (but is not limited to):

- *The use of different theoretical frameworks and methodological approaches when researching applications and mathematical modelling:* advances in the research problems; qualitative and quantitative methodologies; cross-cultural and cross-institutional comparisons; implications for students and teachers at different school levels
- *Applications, mathematical modelling and simulations in connection to other subjects:* the role of modelling in interdisciplinary projects and STEM education; barriers and support for modelling in interdisciplinary and STEM contexts; mathematical modelling for the workplace
- *Use and impact of technology and other resources to support modelling:* the role of digital tools, physical materials and/or experimentation in mathematical modelling
- *Teacher education for modelling and applications:* teachers' competencies to support students working with applications and modelling; teacher education programs concerning applications and modelling; teachers' beliefs and didactic knowledge on modelling in education
- *Strategies to support teachers in the design and implementation of modelling:* task-design and teaching techniques for modelling; problem posing in application and modelling contexts; strategies to improve students' modelling competencies
- *Assessment practices for mathematical modelling:* local, national, or international modelling assessment instruments; assessment and diagnosis instruments for teachers' practice
- *Affect in the context of applications and modelling:* students and teachers' attitudes and beliefs towards modelling activities inside and outside the classroom; creativity in modelling contexts

Papers and poster proposals should use the CERME template, and conform to the guidelines at <https://cerme13.renyi.hu/>. CERME 13 uses an electronic submission system <https://www.conftool.pro/cerme13/>. 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 submit papers to this TWG. Please expect to be asked to review up to two papers yourself. The group leaders will decide about the acceptance of posters.

Important dates

- **15 February 2023:** Deadline for submission of papers and posters.
- **5 April 2023:** Preliminary decisions on papers and posters.
- **10-14 July 2023:** CERME 13 takes place.
- See <https://cerme13.renyi.hu/deadlines> for other important dates