

CERME 12: Thematic Working Group 06 Applications and Modelling

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Scope and focus of the Working Group

The working group (TWG 6) takes on the importance of exploring the role of mathematics when it is used and applied in the study of real-world phenomena in educational contexts. TWG6 takes into account 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):

- *Research studies on mathematical modelling from various theoretical frameworks and with various research methods.* Advances in the research problems in the field; conceptualisation of modelling and their underlying hypothesis and implications.
- *Applications, mathematical modelling and simulations in connection to other subjects.* Mathematical modelling in interdisciplinary projects and in STEM education; the role of modelling for workplace and for society.
- *Use and impact of technology and other resources to support modelling.* The role of digital tools, physical materials and/or experimentation in modelling. New formats of teaching in pandemic time and the impact on innovative practices for students' practice.
- *Teacher education for modelling and applications.* Experiences with different formats (online, blended, etc.) of pre-service and in-service teacher education programmes for modelling. Teacher knowledge and competencies for modelling. Teachers' beliefs and didactic knowledge on modelling in education.
- *Strategies to support teachers in the design, implementation and assessment of mathematical modelling.* Task-design and teaching techniques for modelling; strategies to improve students' modelling competencies; local, national or international modelling assessment instruments; assessment and diagnosis instruments for teachers' and students' practice.

Papers and poster proposals should use the CERME template, and conform to the guidelines at www.cerme12.it CERME 12 uses an electronic submission system www.conftool.pro/cerme12 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. The group leaders will decide about the acceptance of posters.

Important dates

- **15th July 2021:** Deadline for [Early Bird Procedure](#)
- **15th September 2021:** Deadline for submission of papers and posters.
- **4th November 2021:** Preliminary decisions on papers.
- **12^h November 2021:** Preliminary decisions on posters.
- **2nd - 6th February 2022:** CERME 12 takes place.
- See www.cerme12.it/deadlines/ for other important dates