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CERME 14: Thematic Working Group 15

Teaching Mathematics with Technology and Other Resources

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Scope and focus of the Working Group

The two technology groups TWG15 and TWG16 at CERME adopt a wide-ranging view of technology and other resources in mathematics education: the first group focusing on teaching and the second on learning. We embrace both innovative and traditional tools to adopt a broad view of using *technology* resources in mathematics education such as math specific learning environments and general digital tools both to teach mathematics in the class and to manage the professional issues to design activities, didactic methodologies, and assessment. Previous discourse at ERME conferences has embraced a wide variety of research topics, theories and methodologies including qualitative, quantitative and mixed methods. Most recently, TWG15 has focused on teachers' uses of students' (digital) productions; sorting and organising digital content and teachers' choices, beliefs and self-efficacy concerning technology use and professional development to include new pedagogies. The group is keen to discuss about actual uses of technology in relation to the different roles of teachers in their profession: a) teaching in classrooms, to understand both the prevailing classroom practices, theoretical considerations and pedagogical implications; b) learning how to teach, in professional development activities with the support of educators, researchers, and/or colleagues; c) working on resources in collaboration with colleagues in institutional or informal settings; and all the related implications of these roles on policy, practice and theory.

Call for papers and poster proposals

TWG15 particularly welcomes theoretical, methodological, empirical, developmental or replication studies reported in papers (8 pages) or posters (2 pages) that address the following themes:

- The specific knowledge, rationale, and competencies required for effective mathematics teaching with technology and the design of teacher education programmes whose curriculum considers the use of technology;
- Theoretical and methodological approaches regarding teachers' practices and their reasons, when teaching with technology;
- Teachers' decision-making for the selection and use of technology for teaching and learning mathematics and associated quality criteria;
- Theorising the role of teacher collaboration with colleagues within and beyond institutional settings to support the implementation/use of technology in teaching mathematics;
- Analysing teachers' involvement in communities working with researchers, educators, facilitators or colleagues, in relation to curricular innovation of mathematics teaching with technology;
- Teachers' appropriations of emerging technologies (e.g., virtual and augmented reality, artificial intelligence, 'big data', learning analytics) and suitable quality criteria.

> 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.**