

## **CERME 14: Thematic Working Group 29**

### **Embodied and material studies of mathematical behaviour**

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#### **Scope and focus of the Working Group**

In the last decades, major paradigmatic shifts across the social sciences have inspired new research on the embodied nature of mathematical activity. The gradual development of research technologies, starting from video recordings and continuing with eye-trackers, motion and other sensors, has increased our understanding of the complexity of students' and teachers' bodily actions, perception, and multimodal communication. New theoretical insights have come hand in hand with this empirical evidence. The focus on material and embodied processes requires researchers to theoretically reconsider the ontological nature of mathematical concepts and draws attention to imagination and abstraction as socio-material practices. This focus also raises methodological questions: Which new research and presentation strategies could make embodied processes of teaching and learning more visible and comprehensible? Finally, we focus on design-oriented questions about the role of technology and material environments in pedagogy and curriculum development.

#### **Call for papers and poster proposals**

Contributors are invited to submit papers and posters, addressing any of the following aspects as they relate to teaching and learning mathematics and beyond:

- multimodality and sensory-motor processes, including gestures, eye movements, drawing, touch, language use, proprioception, physiological processes, etc within and across bodies;
- material artefacts and technologies, including material making, dance, and aesthetic;
- affect and emotion as socio-material phenomena, pointing at atmospheric conditions of learning;
- diversity of racialized, gendered, dis/abled bodies in formal and informal learning settings;
- teaching practices and teacher education within various embodied and material paradigms;
- alternative research methodologies and means of dissemination that better address the embodied nature of mathematical activity (video, performative, design-based, activist, etc.).

TWG29 invites scholars with diverse theoretical perspectives on the role of the body and material environment in fostering mathematical behaviour to work on clarifying core theoretical and methodological issues and their educational implications. Together, we aim to re-imagine future education as passionate and accessible.

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.