

CERME 12: Thematic Working Group 26 Mathematics in the Context of STEM Education

Leader : Behiye Ubuz (Turkey), ubuz@metu.edu.tr
Co-leaders: Michelle Stephan (USA), mstephal@uncc.edu
Clelia Cascella (UK/Italy), cascella.clelia@gmail.com
Nelleke Den Braber (Netherlands), nsdenbraber@gmail.com

Scope and focus of the Working Group

Working group 26 first assembled at CERME 11 as a forum for STEM education that includes a variety of subjects in the fields of science, technology, engineering and mathematics. Since the discrete subjects of science, technology, engineering, and mathematics were conjoined into the ubiquitous STEM acronym teachers, researchers, policy makers, and funders have worked to integrate these discrete subjects. The process of integration begins with the introduction of new instructional materials and practices, typically through curriculum development, publication of supporting materials, and professional development. The challenge of integrating STEM also lies at the nexus of teacher preparation and in-service teacher professional development.

Call for papers and poster proposals

With this TWG, we want to offer participants a variety of perspectives on the position and role of Mathematics in the context of STEM. We will build on the papers presented at CERME 11 as well as on scholarly research published in journals and books. We welcome theoretical, empirical, developmental and position papers that address one or more of the following topics:

- What STEM is, or how STEM should be conceived.
- What level of integration should be strived for, especially in respect to mathematics.
- A mathematics-specific perspective on STEM, looking at both possibilities and obstacles.
- (The design of) STEM lessons with high quality mathematical content.
- Pedagogy, especially concerning modelling and 21st century skills.
- Experiences/learning outcomes in STEM.
- Teacher professionalization in STEM.
- Integrated approaches to STEM education.
- Theoretical frameworks/perspectives in STEM.
- Factors that foster or inhibit students' attitudes, interests and performance in STEM.
- Issues of equity and inclusion in STEM.
- Role of ethics and politics in STEM.

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