

## **CERME 9: Thematic Working Group 2**

### **Arithmetic and Number Systems**

#### **Leaders**

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

Working Group 2 first assembled at CERME 7 as a forum for presenting and discussing theoretical and empirical research on the teaching and learning of number systems and arithmetic (including models for operations in the number systems, ratio and proportion, rational numbers and number theory). Its scope comprises grades 1-12. An emphasis is put on:

- research-based specifications of domain-specific goals (What should be learned? What can be learned? Which priority is given to particular aspects and why?)
- analysis of learning processes and learning outcomes in domain-specific learning environments and classroom cultures;
- new approaches to the design of meaningful and rich learning environments and assessments.

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

Working Group 2 calls for substantial research-based theoretical, methodological, empirical or practical contributions from a wide range of perspectives, including cognitive, socio-cultural and developmental ones. We especially welcome proposals for papers (ten pages maximum) or posters (two pages maximum) dealing with the following questions:

- What is the interplay between conceptual understanding and procedural skills for number operations and how should these two aspects be balanced in the design of learning environments?
- What does it mean to operate flexibly with numbers and what knowledge and skills are required to operate flexibly with numbers?
- What are the roles of models in the teaching and learning of arithmetic and number systems and how do they support flexibility and conceptual understanding?
- What are effective approaches for the teaching and learning of arithmetic and number systems in inclusive education? How can we teach arithmetic and number systems for students with special needs?
- What aspects of number theory (including specific reasoning) should and can be taught in primary and secondary school, and how can these be taught?
- How can long-term learning processes from grade 1 to grade 12 be supported and analyzed? How can the different transitions involved, especially the primary-secondary transition, but also the secondary-tertiary transition be taken into account?

Papers and poster proposals should use the CERME word template, and conform to the guidelines at <http://www.cerme9.org/guidelines/guidelines-for-authors/>. To submit it, you need to email your paper as a WORD document to Sebastian Rezat at **srezat@math.upb.de**, AND at the same time to the conference secretariat at **submission@cerme9.org**. If possible please also send a pdf version in addition to the WORD document.

#### **Reviews and decisions**

Each paper will be peer-reviewed by two persons from among those who submit papers to this Working Group. Please expect to be asked to review up to three papers yourself. It may be necessary for you to revise your paper before final acceptance. The group leaders will decide about the acceptance of posters.

#### **Important dates**

September 15, 2014:	Deadline for submission of papers
October 1, 2014:	Deadline for submission of poster proposals
November 25, 2014:	Deadline for reviewers to submit their reviews
December 5, 2014:	Decisions about paper or poster acceptance
December 20, 2014:	Reduced fee registration deadline
January 10, 2015:	Deadline for revisions of papers
January 20, 2015:	Papers for presentation at the congress available on the CERME website