

## **CERME 11: Thematic Working Group 02**

### **Arithmetic and Number Systems**

**Leader:** Elisabeth Rathgeb-Schnierer (Germany) [Rathgeb-Schnierer@mathematik.uni-kassel.de](mailto:Rathgeb-Schnierer@mathematik.uni-kassel.de)

**Co-leaders:** Beatriz Vargas Dorneles (Brazil), Renata Carvalho (Portugal), Judy Sayers (Sweden)

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

Working Group 2 is a forum for presenting and discussing research and development in teaching and learning of arithmetic and number systems through activities in and out of school. The various topics include whole numbers, integers and rational numbers as well as representations and problem solving using numbers and operations related to each of these domains.

The scope of the TWG comprises kindergarten to 12<sup>th</sup> grade, and emphasizes:

- research-based specifications of domain-specific goals,
- 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 invites submissions of substantial research-based proposals (theoretical, methodological, empirical or practical) from a wide range of perspectives, including cognitive, socio-cultural and developmental ones. We especially welcome contributions (papers or posters) related (but not strictly bounded) to the following issues:

- Developing a deep understanding of arithmetic and number systems.
- The role of conceptual understanding and procedural skills for learning numbers and operations.
- Developing number sense and structure sense as a foundation for flexibility with numbers and operations.
- Roles of models for teaching and learning arithmetic and number systems.
- Approaches for teaching and learning of arithmetic and number systems in inclusive education.
- Using tools (e.g. technology, manipulatives) in learning and teaching arithmetic and number systems.
- Aspects of number theory (including specific reasoning) that should and can be taught in primary and secondary school.
- Supporting and analyzing long-term learning processes from kindergarten to 12<sup>th</sup> grade.
- Cultural tools and practices for learning and teaching arithmetic and number systems.
- Approaches for teachers' professional development

Papers and poster proposals should use the CERME template, and conform to the guidelines at the [guidelines website](#). CERME 11 uses a [submission website](#). 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 yourself. The group leaders will decide about the acceptance of posters.

#### **Important dates**

- **15<sup>th</sup> July 2018:** Early bird submission (please refer to the [early bird website](#))
- **15<sup>th</sup> September 2018:** Initial submission by authors in the submission system.
- **3<sup>rd</sup> November 2018:** Initial decisions on papers and posters sent.
- **24<sup>th</sup> November 2018:** The authors submit a revised version if needed.
- **5<sup>th</sup> December 2018:** Final decisions sent.
- **12<sup>th</sup> December 2018:** Final version uploaded.
- **13<sup>th</sup> January 2019:** Papers available on CERME 11 website.