



TSG 50 In-service education, and professional development of secondary mathematics teachers

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The aim of TSG 50 at ICME-13 is to share, discuss and advance knowledge and understanding of key aspects of research, policy and practice in the in-service education and professional development of secondary mathematics teachers. The complexity of mathematics teaching practices; ever present changes in standards, curriculum, and assessment; the introduction of new technologies; managing diverse groups of learners; and increasing inequalities within and across country contexts place extraordinary demands on practicing teachers, and the teacher educators and teacher education researchers with whom they collaborate. Different models and approaches to in-service teacher education and professional learning have emerged, together with research questions and methodologies aimed at understanding these approaches and their effects. To engage with the development of this field, what we have learned, and what we still do not know or understand, TSG50's work will be framed by the following focus questions:

- Q1.** What are the key research questions, theories and methods used to study in-service education and professional development of mathematics teachers at secondary level?
- Q2.** What are the accumulating results of research to date? How does the knowledge and understanding that has grown in this field speak to both policy and practice, and across different contexts in which teachers and teacher educators work? What do we still not know or understand?
- Q3.** What have we learned about secondary mathematics teachers' learning through participation in PD, related to beliefs, knowledge and practice?

- Q4.** What innovative professional development programs with/without ICT for in-service mathematics teachers at secondary level have been developed and implemented in different cultural contexts? What is the role of professional learning communities in these programmes, including online communities?
- Q5.** What do we know about the impact, sustainability and scalability of PD programmes? What are the various ways in which sustainability, scalability and effectiveness are defined and then assessed?

TSG50 will meet for four sessions of 90 minutes each. Session 1 will be led by TSG team members and set the stage for the group's work in all the sessions by focusing participant discussion on Qs 1 and 2 above. In sessions 2, 3 and 4 there will invited inputs, with most of the time set aside for discussion as well as participant contributions in the form of talks or posters.

We are pleased to announce that the following invited speakers with relevant expertise across cultural contexts have agreed to provide key inputs related to focus themes in Q3, Q4 and Q5.

Joanna Higgins (New Zealand)

Ulla Runesson (Sweden)

Tom Smith (USA)

Stefan Zehetmeier (Austria)

Ronnie Karsenty & Gil Schwarts (Israel)

Craig Pournara (South Africa)

Erlina Ronda (Philippines)