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## **An important forum for mathematics education research in Europe**

The European Society for Research in Mathematics Education (ERME)

In May 1997, a group of 16 scholars from different European countries met in Osnabrück, Germany, for three days to discuss the formation of a European society in mathematics education. The initiative had come from a group in Germany, based on discussion at other international meetings during the 1990s, and a small conference in Germany in 1995 attended by about 50 participants. I was a participant in this conference and a member of the 1997 group. I remember its being a stimulating meeting, and in retrospect an historic one. Here was the opportunity to form something new, fundamentally European, with exciting possibilities for the future.

In true European spirit, we decided that we wanted a society which would bring together researchers from across Europe, particularly including colleagues from Eastern Europe, fostering communication, cooperation and collaboration. We wanted a conference that would explicitly provide such opportunity. We wanted especially to encourage and contribute to the education of young researchers. Thus ERME was born and began to take shape.

We decided on a two-yearly conference, or *congress* as it later became known, and the name CERME emerged – Congress of the European Society for Research in Mathematics Education. Considerable time was spent talking about the nature of the conference. How were we going to achieve the communicative, cooperative and collaborative spirit we envisaged? After some discussion, it was agreed that the conference might valuably provide opportunity for groups in a particular scientific area really to *work* together on their area of research. Thus the conference should be more than just a platform for presenting and listening to papers. Many other conferences provided such opportunity. It was said that at conferences which offered multiple paper presentations, with discussion for a short time only at the end of a paper, that it was only at the end of a session that one felt really ready to engage with the ideas and take them forwards in discussion and debate; but then everyone went off to the next presentation. CERME should have a group structure in which researchers would have sufficient time to really get to know each other, share and discuss their research and engage in deep scholarly debate.

The first CERME was planned for February 1999, at Osnabrück. The Programme Committee was a small group consisting of Elmar Cohors Fresenborg from Germany, Joao Pedro da Ponte from Portugal, André Rouchier from France, Milan Hejny from the Czech Republic and Barbara Jaworski from the UK. The PC took very seriously the aims for the conference expressed at the 1997 meeting. 7 working groups were planned and 12 hours were provided for work in a group. Group leaders of international standing were invited and agreed to coordinate the groups: each group had 3 or 4 leaders. It was up to the group leaders to receive papers, organise a peer review process, select papers for presentation and organise a programme of work. To avoid most of the conference time being taken up by paper presentation, it was decided there would be no oral presentations at the conference. Papers would be presented in written form before the conference with sufficient time for group participants to read the papers. The 12 hours would be spent

discussing the papers and working on themes and issues suggested by the papers and the group leaders. In addition we had keynote talks from Jeremy Kilpatrick (US) and Guy Brousseau (France) and poster presentations. Further details can be found in Schwank, 1999, Volume 1, pp.23-33.

I remember vividly as we arrived at that first conference, Colette Laborde asked me, “What are we going to do with *twelve* hours?” As leader of the technology group, she was worried about how to spend this large amount of time. At the end of the congress, she declared herself amazed and delighted: the quality of discussion had been high, the engagement deep and stimulating and the time had flown. On the last morning each group presented themes and issues from their discussion and it was clear overall that time had been used effectively and that there was no problem of too much time! Subsequently each group reformulated their papers and discussion to provide a written set of proceedings published by the German group and circulated to all participants (Schwank, 1999).

Also at this first congress were the early meetings of a committee that was to grow in later years into the ERME Board. Led at that time by Jean Philippe Drouhard (France), the committee held open forum at the conference to seek views and formulate policy for ERME. Two principles developed clear importance, the first to encourage colleagues in Eastern Europe to become part of the society and secondly to support young researchers throughout Europe. It was agreed to encourage young researchers to attend CERME, but perhaps more was needed. Perhaps ERME could offer a summer school for young researchers.

Over the succeeding years, a group led by Konrad Krainer (Austria) and Paolo Boero (Italy) developed a plan and style for a YERME summer school (YESS). The first summer school was held in Klagenfurt, Austria in August 2002. Like CERME, the summer school was based around working groups, each with an international “expert” as group leader. Group work was based on papers submitted by the young researchers, and groups were convened around themes suggested by the submitted papers. Young researchers were encouraged to read and react to each other’s papers and to engage in scholarly debate within their groups.

The pattern of CERME and YERME has developed so they take place in alternative years. CERME 4 took place in Saint Feliu, Spain in February, 2005 and YESS 3 in Jyväskylä, Finland in August 2006. CERME 5 will take place in Cyprus in February 2007, and YESS 4 in Trabzon, Turkey in August, 2008. Between these events we had CERME 2 in Marianske Lazne, Czech Republic in 2001; CERME 3 in Bellaria, Italy in 2003; and YESS 2 in Podebrady, Czech Republic in 2004. We already know that YESS 5 will take place in Palermo, Italy in 2010. We still have to decide the location of CERME in 2009.

Although I was not able to take part in all these events – I missed one conference and one summer school – it became clear to me that we had initiated something exciting, significant and of important consequence for the future. People came from these events speaking of *inspirational* experiences. It seemed clear that the events generated something that we came to call *the CERME Spirit*. Based fundamentally on the three Cs, communication, cooperation and collaboration, the CERME Spirit was about the inspiration that derives from serious scholarly tackling of ideas and concepts in key areas of mathematics education research with colleagues from multiple nations, facilitated by the group design of the events.

The scientific areas on which we have worked in the most recent conferences are as follows: The role of metaphors and images in the learning and understanding of mathematics, Affect and mathematical thinking, Building structures in mathematical knowledge, Argumentation and proof, Stochastic thinking, Algebraic thinking, Geometrical thinking, Mathematics and language, Tools and technologies in mathematical didactics, Mathematics education in multicultural settings, Different theoretical perspectives/approaches in research in mathematics education., From a study of teaching practices to issues in teacher education, Applications and modeling, Advanced mathematical thinking, Comparative Studies in Mathematics Education. CERME 5 has one

working group in each of these areas.

However, the group design was not without its critics. Some critics felt constrained by the requirement to spend a conference, largely, in just one group. Some felt that a conference ought to offer a greater variety of opportunity to participants. Participants should be free to choose where to be at any time. However, the group work at CERME or YESS would be seriously disrupted if participants were to hop from group to group, not engaging seriously with the work in any one. Some suggested that perhaps planning could allow participants to take part in two groups, so that engagement in both could be serious. Such ideas have been considered by the Programme Committees but so far we have remained faithful to the initial conception. Many participants have said in evaluation of the events that the opportunity to spend serious time in one group allowed them to really get to know researchers from other countries, and that this contributed significantly to the depth of thinking that was possible.

It is not possible here to describe all the events in detail. Each event had its own characteristics related to the particular location and planning. The first two CERMEs were quite small, but CERME 3 in Bellaria attracted over 200 and at CERME 4 in Spain numbers were up to 350. We felt that CERME had really taken off! YESS 3 had more than 50 applicants – a big effort, both organisationally and financially was made to include them all. The first committee guiding ERME grew into the ERME Board, with first President Paolo Boero (Italy). Paolo was tirelessly hardworking and optimistic about possibilities for ERME, CERME and YERME, and a strong force for encouraging others to contribute to their development. The ERME Board worked hard to encourage the organisation of events, to fund the YESS, and to fund participants from Eastern countries. It was decided to establish ERME legally with charitable foundation in the UK, and this is now ready to be finalised with a formal Constitution and Bye-laws.

Before ending, I must point briefly to two important issues with which we have been grappling in CERME and YERME over the years. The first concerns *language*. The language of our events is English, as the only workable common language. However, we recognise that many participants are disadvantaged by having to work in English. Thus we try to encourage all to speak as slowly and clearly as possible, and we try to devise innovative ways of using multiple languages in our sessions. The second concerns a dichotomy between *quality* and *inclusion*. We aim for high scientific standards in our work, reflected in our reviewing of papers. However, we want to include all who wish to come, and for most this involves presenting a paper. So group leaders try to help presenters to improve the quality of their papers for presentation, and have more rigorous requirements for papers to be published in our proceedings. Finding the balance is something on which we continue to work.

As I write this we look forward to the coming meeting in Cyprus and to ongoing activity in our Society. We want to encourage wider participation with more nations contributing to hosting events and a secure financial platform for continuing our inclusive communication, cooperation and collaboration within Europe.

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## References

Schwank, I. (1999). European Research in Mathematics Education. Osnabrück: Forschungsinstitut für Mathematikdidaktik.

Further details of ERME and CERME 5 can be found at the following sites

<http://www.cyprusisland.com/cerme/index.htm>

<http://ermeweb.free.fr/>