



## TSG 14 Teaching and learning of probability

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Research in probability education is now well established; however, some recent developments suggest the need to increase research and, once again, re-formulate a research agenda in this area for the coming years. The group welcomes theoretical analyses and empirical research in probability education using a variety of research methods, coming from researchers and teachers that deal with any of the following topics:

- *The nature of chance and probability.* This includes different views along history, in the practice of statistics, and in the curricula, as well as philosophical problems and people's personal views.
- *Statistical versus probabilistic knowledge and reasoning.* Beyond being a tool for inferential statistics, probability is an approach to structure our world and both statistics and probability can connect to mathematical modelling with complementary views. There are also new paradigms in probabilistic reasoning research, once dominated by the heuristics and biases program.
- *Components of probability reasoning and literacy in everyday or professional settings.* This includes dealing with risk and decision making, and educational programmes to develop the related competences.
- *Probability in school curricula.* Since probability is increasingly being included, beginning in primary school in many countries, it is important to reflect on the main ideas that students should acquire at different ages, informal probabilistic reasoning, appropriate teaching methods, suitable teaching situations and successful teaching experiences. The use of technology in teaching and learning probability and analyses of educational resources are also appropriate.

- *Education of teachers.* The field needs suitable models describing the components of teachers' knowledge to teach probability that take into account the specific features of teaching and learning probability. Research dealing with assessing and developing teacher's knowledge is also expected.

The working group sessions in the conference will include invited and contributed papers, as well as posters. If needed the sessions of contributed papers will be split in two sessions each. A provisional schedule of sessions is as follow:

Session 1. Introduction by Egan Chernoff (Canada). Invited paper by Manfred Borovcnik (Austria). Reaction by Carmen Batanero (Spain).

Session 2. Invited papers by Cynthia W. Langrall (USA). Rolf Biehler (Germany) and Per Nilsson (Sweden).

Session 3 and 4: Contributed papers and posters.

We plan to prepare a publication after the conference that develops the papers presented in the group. More information is available from the co-chairs.