

**Plenary Panel**  
**25 years of PME: Past and Future Challenges**

**Panelists:** Alan Bell, University of Nottingham, Great Britain  
Jorge Falcão, University of Pernambuco, Recife, Brazil  
Andrea Peter-Koop, University of Muenster, Germany  
Fred Goffree, Freudenthal Institute, Utrecht, The Netherlands

**Coordinator:** Catherine Sackur GECO-IREM, Nice, France

**Introduction**

In 1977, PME 1 took place in Utrecht; PME 25, in 2001, is now coming back to Utrecht.

After infancy, childhood and teenage, 25 is the age of adulthood.

What are the characteristics of adulthood? autonomy and responsibility.

Let's leave aside the dreams of childhood, forget the passions of teenage and face the responsibilities that we have towards the international community: that of presenting a coherent body of researches in mathematics education for the future.

In this panel, four experts will analyze the work which has already been done by the members of our community, will examine the way questions and ideas have developed and will try to give guidelines for future work..

Our four experts are: a psychologist (Jorge Falcão), a teacher (Andrea Peter-Koop), a teachers' educator (Fred Goffree) and a researcher in mathematics education (Alan Bell).

Alan Bell will start with a review of major trends throughout the 25 years of PME; comparing PME 2 and PME 23 he will make clear that some topics still need investigation.

The second expert will be Jorge Falcão, whose presentation will lead us to the discussion of the contribution of psychology to our field.

Andrea Peter-Koop will talk about the necessity of research for in-service and pre-service teachers. We'll discuss what kind of research is most appropriate for them.

The first part of the panel will end with Fred Goffree's talk. Fred Goffree has been working with student teachers in various institutions. He has experienced different techniques and methods, being close to Hans Freudenthal, here in Utrecht. He intends to question the links between theory and practice, and "developmental research".

After the four presentations, we will ask you to discuss some proposals for new trends in mathematics education's research.

I went through the very rich texts which have been proposed to us, and I would like now to share with you some of the questions which came to my mind.

- You will certainly notice that two of our experts are concerned by the great number of Research Reports presented in our PME meetings, and by the difficulty to have an integrated view of the actual research in our community. Does this mean that, in the future, we should change the ways in which PME members present their research, or should “we“ devote some time in building synthesis? who could be this “we“?
- Do we need more psychology to understand mathematics learning and teaching? Should there be more psychology in the training of mathematics’ teachers?
- Are the concepts of metaphors and competencies-in-action useful to describe mathematical concepts? If metaphors are useful for mathematics education, could they at the same time be didactic obstacles?
- About research and teacher education (inservice or preservice teachers), there are different questions: shall we take for granted that research should be part of the training of teachers? if the answer is yes, what is the role of research in teacher education? how much research should we devoted to teacher education?
- One can observe a change in the methodology of our work: large scale researches seem to be more or less abandoned in favor of classroom researches or observation of rather small groups of students. Could this phenomena be linked to a questioning about mathematics education: are teachers supposed to “teach skills“ (the evaluation being then easily feasible through large scale studies), or is mathematics education “learning to act like a mathematician“ (which study requires another methodology)?

No doubt that you will have many other questions to debate with the panelists. To the **P**, the **M**, the **E** of **PME** we will, of course, add the **R** of Research.

The answer to these questions should lead us to some sort of « agenda » for the next 25 years of PME.

May this panel contribute to bring PME to its full development. ***Rendez-Vous in Utrecht in 2026!***