

## ROLES FOR MATHEMATICIANS IN MATH EDUCATION

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*Organizers:* Solomon Friedberg is James P. McIntyre Professor of Mathematics at Boston College, and Chair of the US National Commission on Mathematics Instruction.

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Carlos Kenig is Louis Block Distinguished Service Professor of Mathematics at the University of Chicago, and President of the IMU. He is a member of the US National Academy of Sciences.

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Jürg Kramer is Professor of Mathematics and its Education at Humboldt University Berlin. He is Chair of the Committee on Education of the European Mathematical Society, and a past President of the German Mathematical Society (DMV).

*Aims:* Mathematicians have played an important role in math education for many years; for example, mathematicians Felix Klein (the first President of ICMI), Hans Freudenthal, and Georg Pólya have contributed fundamentally. In the present landscape, with the emergence of many specialists in education and math education, sometimes grounded in other disciplines, there are more voices and more perspectives—both a challenge and an opportunity. The goal of this discussion group is to take stock of ways that mathematicians are presently contributing to math education, to consider what they can add to the field of math education *as mathematicians* and among these what roles are most important, and to ask what experiences and structures would be most useful in promoting future cooperation and contributions.

*Underlying Ideas:* Mathematicians have played many roles in math education, including the training of future teachers in the university, the support of in-service teachers (e.g. helping to promote their on-going engagement with mathematics), roles in public policy such as writing or reviewing K-12 math standards and ensuring that there is a close articulation between K-12 math and university-level math, and roles in advocacy for math education. There appears to be quite a bit of variation from country to country, with some countries having many mathematicians involved in K-12 math education and some having practically none. We believe it would be valuable to discuss the contributions of mathematicians explicitly (they are not mentioned in any of the TSGs), to reflect on what they are contributing *as mathematicians* with their specific training and perspectives, to discuss what can be done to promote involvement going forward (taking stock as well of obstacles and pitfalls), and to ask whether or not this could be a source of the improvement of K-12 math in countries where there has been little connection between university level mathematicians and mathematics educators to date.

Planned timeline	Planned activity	Working format /Responsible person
21:30 to 21:55	Discussion of the involvement of mathematicians in pre-service education	Short introduction followed by participants' descriptions of involvement and discussion of roles for mathematicians in the preparation of future teachers / Organizing team
21:55 to 22:15	Discussion of the involvement of mathematicians with in-service teachers	Short introduction followed by participants' descriptions of involvement and discussions of contexts, roles and best practices for the involvement of mathematicians in work with in-service teachers/Organizing team
22:15 to 22:35	Discussion of the involvement of mathematicians in math education policy	Short introduction followed by participants' descriptions and discussion of the involvement of mathematicians in math education policy / Organizing team
22:35 to 23:00	Discussion of connecting mathematicians and mathematics educators going forward: roles, opportunities, obstacles and potential pathways	Overall discussion of the involvement of mathematicians in math education and possibilities for future engagement / Organizing team