

## FOREWORD

Our Symposia of Physicists at the University of Maribor, or shortly Christmas Symposia, already have a tradition, as this year it is already the 14th one. The purpose is the scientific socializing of Slovenian physicists along with the participation of some distinguished colleagues from abroad as our honorary guests. This year we have six invited speakers from abroad, from some best research groups, so that our meetings remain national with international participation. The meeting is only one of the many activities of CAMTP - Center for Applied Mathematics and Theoretical Physics, which organizes seven series of international scientific meetings. See [www.camtp.uni-mb.si](http://www.camtp.uni-mb.si)

We would like to stress that our meeting is devoted to the entire physics, theoretical and experimental, and also applied mathematics and to all other topics, for which physics is important, or they are important for physics.

All lectures are on the level of colloquia, thus understandable for a general physicist, and therefore particularly well suited for students, the undergraduate and graduate students. Such general meetings in the field of physics practically no longer exist in the world, although to our opinion they are important for the widening of the intellectual horizon of all physicists. Our colleagues from abroad, the participants so far, confirm our view and appreciate our scientific programme. The meeting is also an opportunity for the young researchers to present their work and discuss it with the experienced scientists. With this activity we also contribute to the promotion and the popularization of physics in our society. We are convinced that it is quite urgent to care about the more intense popularization of natural sciences in our society, and physics plays a key role in this context. All undergraduate students can attend all the lectures of the conference free of charge. In this way we contribute to the popularization of physics and to the additional education in this field.

At the end we would like to stress that our gatherings are an important contribution to the activities of the Faculty of Natural Sciences and Mathematics of the University of Maribor and the Faculty of Mathematics and Physics of the University of Ljubljana, and of course also for the institutes with the department of physics, like Institute Jožef Stefan and CAMTP in Maribor.

It is our privilege that the general patron and co-organizer of our meeting is the European Academy of Sciences and Arts (Salzburg).



The meeting is dedicated to the 85th birthday of Professor Siegfried Grossmann from the University of Marburg, Germany, who is Honorary Doctor (Doctor honoris causa, 2011) of the University of Maribor; he has the credits for the development of CAMTP and its international relationships. Professor Grossmann, born on 28 February 1930 in Königsberg, East Prussia (now Kaliningrad, Russia), working at the University of Marburg since 1964, where he was retired in 1998, is one of the most outstanding theoretical physicists of the 20th and 21st Centuries, as he is one of the founders of the nonlinear dynamics as the new scientific discipline, and also is one of the world-wide leading theoreticians in the fields of fluid dynamics and theory of turbulence, stochastic processes, phase transitions, laser physics, nuclear physics, transport theory, Bose-Einstein condensation and the general statistical physics, as well as mathematical physics and functional analysis. We should mention that Universities of Marburg and Maribor are partner universities, and Marburg and Maribor are twin cities. Therefore, Professor Grossmann has contributed a lot to the enrichment of the cultural and scientific exchange between the two cities and their universities.

Prof.Dr. Marko Robnik, Member of EASA, Director of CAMTP and  
Prof.Dr. Anita Prapotnik Brdnik, FG UM