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MEASUREMENT 2013

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Preface

One accurate measurement is worth a thousand expert opinions.

Grace Murray Hopper (1906 – 1992)

The words of the American computer scientist and US Navy Rear Admiral who came with the idea of machine-independent programming languages and developed the first compiler underscore the importance of measurement in research, engineering, society and decision making in general. We all are aware of the fact that development of measurement and measuring methods open new ways for technology advances and represent a prominent instrument on the way to major revelations. In a bit joky way the role of measurement expressed also Enrico Fermi, Italian theoretical and experimental physicist (1901 – 1954) saying *“There are two possible outcomes: If the result confirms the hypothesis, then you've made a measurement. If the result is contrary to the hypothesis, then you've made a discovery”*.

However, to play this serious role, each measurement has to fulfill at least two conditions: proper measuring method, yielding values of desired quantity has to be used and the measured values have to be properly interpreted. Measurement science investigates both these aspects of measurement. In this sense also the MEASUREMENT conferences are focused on new developments in measurement theory, evaluation of measured data and estimation of their uncertainty as well as on advances in measuring methods and their applications in two specific areas: biomedicine and physics. Every two years since 1997, the Smolenice castle offers the conferences its comfortable environment for scientific talks, informal working discussions and friendly relaxation moments.

Continuing this tradition, also the 9th International Conference MEASUREMENT 2013 is devoted to theoretical problems of measurement, measurements in biomedicine and measurements of physical quantities. It includes actual themes of modeling of measured objects and development of new imaging techniques. The mission of the Conference is passing and exchanging of new ideas among specialists in measurement science but also education of young students and investigators and their competition for the Young Investigator Award that is sponsored by the conference organizers.

The conference is organized by the Institute of Measurement Science, Slovak Academy of Sciences in collaboration with several co-organizers and technical sponsors that substantially contribute to preparation of the conference program. This year the conference has a special flavor. As the Institute celebrates its 60th anniversary, this event is a good opportunity to summarize its achievements and to indicate future perspective areas of research.

I wish that the 9th international conference on measurement will become both, a high quality scientific meeting and an enjoyable social event allowing the participants from many countries to exchange new information but also mutually learn about their cultural specificity. Together with the editors of these proceedings I also hope that the book will give some insight into the high professional level of the conference, will be a useful source of information for those who were not able to participate personally and will become a quoted reference in measurement science and technology.

Milan Tyšler
Conference Chairman