



The 10<sup>th</sup> International Conference **MEASUREMENT 2015** was organized by the Institute of Measurement Science, Slovak Academy of Sciences, Bratislava, Slovakia.

# MEASUREMENT 2015

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Congress Center of the Slovak Academy of Sciences  
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# MEASUREMENT 2015

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The submitted papers were evaluated by 62 reviewers, members of the International Program Committee and experts in the field. Each paper was scored by two or three reviewers.



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## Preface

*Measurement is only a limited special case  
within the larger world and practice of assessment.*

Prof. Lorrie A. Shepard, (2000), University of Colorado at Boulder

The MEASUREMENT conference organized by the Institute of Measurement Science, Slovak Academy of Sciences and focused on “Measurement Science” enters this year into its jubilee – the 10th repetition.

The first MEASUREMENT conference was held in 1997; however, already a long time before this date the Institute actively participated in organization of international workshops and EMISCON conferences focused on electronic measuring and information systems. Some of these events were held also on the beautiful premises of the Smolenice castle.

The initial intention of the workshops was to create a space for confrontation of results achieved by researchers of the Institute with the current outcome of foreign research institutions, usually presented by invited foreign experts. Traditional main topics of the workshops were - measurement theory, - design of experiments, - systems for measurement of selected physical quantities, - mathematical and computer modeling of bionic structures, - processing of biosignals, and, finally, - development of measuring systems for biomedicine.

Significant international success of these workshops has naturally led to the idea that the Institute of Measurement Science - in cooperation with other domestic and foreign institutions (Slovak University of Technology in Bratislava, Technical University in Kielce, Poland, Technical University Vienna, Austria, and University of West Bohemia, Czech Republic) - could organize a series of international conferences with the aim to create an international forum that could oversee the discipline of measurement science in Central Europe. The MEASUREMENT conference has been organized in a regular two-year cycle since 1997 and under the auspices of IMEKO technical committees TC7 and TC13 and with technical sponsorship of the IEEE organization since 2001.

At the initiative of the MEASUREMENT 2001 conference, the Institute of Measurement Science began publishing of the international scientific journal MEASUREMENT SCIENCE REVIEW in 2001. The magazine has become a major international scientific medium and its current publisher is De Gruyter Open. The journal is indexed in several databases and has a good Impact Factor. The mission of the journal is to publish papers on Measurement Science with orientation toward the theory of measurement, measurement of physical quantities and measurement in biomedicine.

Dear participants, it is our great honor to welcome you at the jubilee 10th international conference on measurement - MEASUREMENT 2015. We hope that the rewarding scientific program, together with the pleasant environment of the castle and offered social events, will attract your professional interest, create a working atmosphere and promote fruitful professional discussions.

Ivan Frollo  
Conference Founder and Past Chairman

Milan Tyšler  
Conference Chairman