

## Preface

The 13<sup>th</sup> International Conference on Local Mechanical Properties - LMP2017 was organized and held at the Institute of Materials Research of the Slovak Academy of Sciences in Košice on November 6 - 8, 2017.

The conference gradually evolved and continues the series of focused annual workshops on nanoindentation and other techniques related to local mechanical properties organized alternatively in Slovakia and Czech Republic. The first two workshops (2004, 2005) were held in Košice, then in Plzeň (2006), Brno (2007), Herľany (2008), Telč (2008), Smolenice (2010), Olomouc (2011), Levoča (2012), Kutná Hora (2013), Stará Lesná (2014) and Liberec (2015). Because of organizational reasons, the conferences became biannual and current LMP conference was held in 2017 again in Košice.

The 13<sup>th</sup> LMP conference involved 59 participants from 8 countries: the majority was from Czech Republic and Slovakia but the researchers from Japan, Germany, Austria, Sweden, Switzerland and Poland also participated. The scientific program included 4 invited lectures, 17 regular presentations, five company presentations and the Best poster competition for 20 posters at the conference.

The invited talks, regular lectures as well as posters presented at LMP2017 were focused on the latest results of research activities in the micro-scale measurement of mechanical properties of the materials ranging from ultrahigh temperature ceramics, bulk ceramic and metallic composites and coatings up to polymers and biomaterials. Most of the works coming from various fields of materials science and engineering were united by the instrumented indentation technique. However, the other techniques for the assessment of local mechanical properties, measurements of deformations and stresses, time-dependent properties with related microstructure analyses, etc., at small scale were also included.

Besides welcome meeting, the social program involved an excursion at USS Company, excursion around the Košice city center and a social evening with the bowling tournament. Such program would not be possible without the support from our sponsor companies including "measurement technic – moravia" mt-m, Alemnis, Anton Paar, Embraco, Sobriety, Specion and Zeiss which is highly appreciated.

The proceedings of LMP2017 consist of three chapters including 26 peer reviewed papers on the measurement of local mechanical properties in the bulk materials, films and coatings and to additional methods, techniques and material systems. Despite the number of contributions is smaller compared to the previous years, the organizers hope that it represents the overview of the current state of understanding and application of instrumented indentation and similar techniques in the countries of Central Europe.

The organizing committee of LMP2017 would like to thank all presenters, participants and sponsors for their support and efforts in the preparation of the conference, their scientific presentations as well as written contributions which contributed to the success of the conference.

We are looking forward to meeting all together at the next LMP conference in 2019. The exact location and date of the LMP2019 will be announced later.

F. Lofaj  
Editor

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