

Preface

Engineering ceramics are recently becoming more attractive and the number of various applications in industry is slightly but steadily increasing. The wider use of engineering ceramics is related to their multifunctional character which made them interesting for particular applications compared to other classes of materials. Therefore, data on catalytic, optical, electrical and/or thermal properties are important beside the typical characteristic values of the mechanical properties, such as strength, hardness or fracture resistance. The advanced research workshop Engineering Ceramics 2007 held in Smolenice Castle, Slovakia, from 6 to 10 May 2007 with the subtitle: *From engineering to functionality* fully confirmed this trend. The workshop was focused on recent advances in ceramic research as well as in their usage in industry. Lectures given by academics as well as researchers from industry gave insights in research on nano-ceramics, ultrahigh temperature materials and multifunctional materials. Especially contributions from industry demonstrated the high potential of multifunctional ceramic materials for applications in the automotive and engineering area. The total number of participants was restricted to 80 and allowed intensive discussions within the one session programme. Close interactions between participants were further stimulated by the relatively large number of industry people (15%), but also by the attractive ambience of Smolenice Castle.

A part of the programme was dedicated to *Rowland Morell Cannon*, one of the best known ceramists in the world, who passed away suddenly and unexpectedly in April 2006. As a

Research Engineer, Lecturer and Staff Scientist at the University of California, Berkeley and the Lawrence Berkeley National Laboratory, he engendered the respect, trust and affection from a wide network of colleagues and collaborators across the globe. R.M. Cannon participated in the past several times at our workshop on Engineering Ceramics in Smolenice Castle and made strong contributions with his profound understanding to give us new insights into the mechanical behavior and microstructure evolution in ceramics. The extraordinary impact of his research in the thermodynamics, processing and structural properties of ceramics as well as his strong personality was emphasized by Richard Brook. Further lectures covering the character, stability and properties of interfaces for ceramics and their role in microstructure development and mechanical behavior were given by former collaborators.

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