Preface

Processing of metals and their alloys into final products that meet customers' expectations in terms of shape, dimensions and final properties requires various operations, most often connected with the metal forming. It has always been, and continuously is, an important manufacturing process used for many applications starting from nanoparts of electronic systems, through bioengineering applications, automotive and aerospace industry, to massive components used in offshore or nuclear applications. Continuous development in metal forming technologies e.g. hot stamping brings about possibilities to obtain new, yet better products with complex shapes and enhanced properties, tailored to specific often more and more demanding applications. Therefore, metal forming attracts the interest of scientists, academics and researchers all around the world. This provides a great motivation for organising the conference as a forum for discussion and dissemination of recent developments, innovations and advances in this field of science and technology.

This volume of Key Engineering Materials contains papers presented at the 16th Metal Forming International Conference held in Kraków, Poland on September 18-21, 2016. Metal Forming 2016 is the 16th in a series of International Conferences organized by AGH University of Science and Technology since 1974. From 1994 to 2010 the Conference was organized biannually, jointly with the University of Birmingham, UK. The latter was replaced by the University of Toyohashi in 2010, when the Conference went, for the first time, to Japan. Metal Forming 2012 was organized in Kraków by AGH University of Science and Technology, together with the University of Toyohashi and, for the first time, by the University of Palermo, Italy, which had joined the Organization team, and hosted the Conference in 2014.

The papers published in this volume represent the state-of-the-art in the field of metal forming science and technology. The contents of more than 120 contributions submitted by authors representing universities, research institutes and industry from all over the world demonstrate the results of a very wide spectrum of research topics, from micro- and nano- forming, to the numerical modelling of processes and systems. The applications of the latest achievements in material characterisation techniques for prediction of microstructure evolution and mechanical properties during or after thermomechanical processing are also presented. Constitutive and numerical modelling as well as optimisation of processes and systems is the topic of a significant part of contributions. Manuscripts cover a wide range of materials from metal powders, titanium and magnesium alloys to advanced high strength steels and multiphase materials.

We would like to express our gratitude to the reviewers of the submitted papers, principally to the Members of the Scientific and Steering Committees of the Conference, for their hard work and critical, but constructive remarks, which were helpful in maintaining the high scientific level of the Conference. We hope that the proceedings will become a source of valuable information and inspiration in the scientific work for academics, researchers, engineers and students, and we are pleased to welcome in Kraków every Participant of the 16th Metal Forming Conference.

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