

Preface

Faculty of Materials Engineering and Metallurgy is one of the 15 Faculties at Silesian University of Technology. The Faculty structure consist of four departments: Institute of Metals Technology, Institute of Materials Science, Department of Production Engineering and Department of Industrial Informatics. Located at Katowice faculty employs 44 professors and associate professors as well as 63 doctors. Scope of research activities includes materials engineering and metallurgy. Many research works carried out at the faculty concern problems related to the development of technologies and shaping the structure and properties of lightweight construction materials.

This conference is organised annually in conjunction with the celebration of National Metallurgist's Day in Poland. It is the occasion for faculty members, students and guests to share and discuss the results of their research and plans for the future development of the Faculty. During the conference more than forty papers were presented on seminar sessions. Additionally the poster session open to participants and faculty students was organised. Selected, peer reviewed papers are presented in this book.

Similarly to the previous this issue will include three chapters: I – aluminium alloys, II – magnesium alloys and III – titanium alloys.

Chapter I presents the subjects relating to the manufacturing of aluminium alloys, grain refinement and welding joints. This chapter presents also result of investigations concerning methods of obtaining and properties of aluminium matrix composites.

Chapter II contain the papers presenting the results of researches carried out on conventional and new casting magnesium alloys. The first group of articles concern the effects of modification on the structure and properties of casting alloys. Following papers present results of researches on plastic deformation of Mg alloys. Subsequent articles cover topics related to the welding technologies. Last part of the chapter concern the magnesium matrix composites.

Results of researches carried out on titanium alloys are presented in Chapter III. Papers included in this section concern the microstructure, properties and heat treatment of Ti alloys.

This project is the series of volume in the area of light metal alloys. The authors are planning to continue the series and publish as annual "Metallurgist Day" conference proceedings.

Editors.