

# Preface

This special edition is dedicated to actual issues of modern manufacturing starting from materials processing technologies and issues of waste treatment ending with the design of technological equipment, analysis processes of heat and mass transfer in engineering systems, and mechatronics and robotics.

Analysis of special features of electro-discharge machining of alloy and superalloy and parameters optimisation of this process, etc. are presented in the first chapter.

The second chapter deals with the analysis of some technological procedures for solid waste utilisation. Some methods of biomass waste recycling and the application of recycled expanded polystyrene in concrete composite are presented here too.

The next three chapters contain articles that focus on the design of structural elements and technological equipment, analysis of heat and mass transfer processes in engineering systems, and research and design of real mechatronic and robotic systems.

The special edition will be helpful to specialists in machinery, materials processing, robotics and environmental engineering.