

# Preface

The presented special edition is devoted to the latest research in materials science and chemical technologies of materials synthesis and processing.

Optical materials, materials and their processing methods for microelectronics, and also results and practical approaches for inspection and analysis of defects in silicon carbide structures are the themes of the first two chapters.

The next two sections include articles that analysed the recent chemical technologies for the synthesis of nanosized membranes for the fuel cell application and preparation of activated carbon by carbon dioxide-physical activation and also analysed the technological features of waste conversion to electricity with the help of microbial fuel cells and application of the municipal solid waste as a fuel for power plants.

This edition will be helpful to specialists involved in optoelectronics, electronics and to chemical engineers whose activity is related to alternative energy generation and environmental protection.