

# Preface

The edition presented to your attention highlights the latest results of research in the field of synthesis of materials and the study of their properties.

Metal-organic frameworks and multifunctional nanocomposites are widely used in the form of catalysts and photocatalysts with applications in wastewater treatment, sensor devices, and electrochemical energy storage devices. Studies on this topic are combined into one chapter.

A separate chapter is devoted to the consideration of the synthesis technology and the study of the morphology and optical properties of oxide nanostructures used in electronics and optoelectronics.

A special chapter on research in the field of biomedicine includes the study of the synthesis technology and properties of the drug delivery system in the treatment of cancer, as well as a special biocompatible coating for implants.

The last chapter is devoted to the study of synthesis technologies and properties of composites with a titanium matrix, as well as the synthesis features and protective properties of special claddings for structural steels and alloys.

This book will be helpful to a wide range of specialists in modern materials science.