

## Preface

This special edition contains papers representing the latest research results in the properties of structural alloys and semiconductor materials for power electronics, assessment of the load-bearing capacity of structural members and concrete, and analysis technologies of water treatment and waste recycling.

Modern types of alloys and steel are the base materials for various structures not only in mechanical engineering but in the electronic industry, construction, etc. The first chapter is devoted to researching these structural materials' properties and technologies of their synthesis and treatment.

The next two chapters include the research results on the properties of semiconductor materials for power electronics applications, as well as materials and technologies for water treatment and waste recycling.

The last chapter is devoted to issues of analysis of the load-bearing capacity of welded structural elements and concrete's properties in modern construction.

The presented special collection will be helpful to engineers in machinery, applied materials science and construction.