

## Preface

In this edition, the reader will find the results of the latest research and technological developments in the field of structural materials, modern semiconductors and geopolymers in construction.

The use of modern welding technologies - friction welding allows to achieve high-quality welds, weld dissimilar materials, and fully automate the welding process. The features of the technology of eutectic welding in a microwave field, which can be successfully applied in the production of solar panels, are also considered.

Attention is also paid to the study of the cavitation destruction of bronze in the case of its use for the production of hydraulic machine elements.

Interesting are the experiences of using ash as a filler in modern composite materials and geopolymers in construction.

The publication will be useful and interesting to a wide range of specialists in the field of modern mechanical engineering and construction.