

**5th International Scientific Workshop
«Advanced Technologies of Electromagnetic Field Assisted
Consolidation of Materials »**

Moscow, Russia, 29-31 August 2016

Organizers:



*National Research Nuclear
University «MEPhI»*



*Key Laboratory for Electromagnetic
Field Assisted Materials Processing*

Preface

These proceedings are a collection of the selected articles presented at the 5th International Scientific Workshop «Advanced Technologies of Electromagnetic Field Assisted Consolidation of Materials», held in Moscow, Russian Federation on 29-31 August 2016. This workshop is regularly organized by *Key Laboratory for Electromagnetic Field Assisted Materials Processing of National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)*, Russian Federation.

The Scientific Workshop was sponsored by the Competitiveness Growth Program of MEPhI ("5–100" Russian Academic Excellence Project - <http://5top100.ru>).

One of the main goals of this Scientific Workshop was to train young scientists in matters of advanced technologies of electromagnetic field assisted consolidation of powder materials. Meetings were held in the form of review lectures of the leading scientists with free discussion and personal oral and poster presentations of the participants.

The general scope of the Scientific Workshop covered the advanced technologies of electromagnetic field assisted consolidation of materials.

The workshop was attended by 67 participants from 5 countries (Russia, Belarus, Ukraine, Latvia and USA). During the three days of the workshop 14 invited lectures, 35 oral presentations were delivered. However, only some papers were qualified for being published in the Open Access IOP Conference Series: Materials Science and Engineering (MSE).

Based on the peer-review of reports presented at the workshop 22 selected papers have been included in this volume. These papers present new research in the various fields of technology of electromagnetic field assisted consolidation of powder materials. We sincerely hope that the reports presented in this volume will contribute to the advancement of knowledge not only in these fields, but also others.

The organizing committee of the workshop thanks all the participants for their fruitful work and personal contribution to the development of these conference proceedings.



Content from this work may be used under the terms of the [Creative Commons Attribution 3.0 licence](https://creativecommons.org/licenses/by/3.0/). Any further distribution of this work must maintain attribution to the author(s) and the title of the work, journal citation and DOI.



The Editors

Dr. Eugene A. Olevsky

Dr. Evgeny G. Grigoryev

LISTS OF COMMITTEES

International advisory committee

Chair: Olevsky Eugene A. – San Diego State University (USA)

Alymov Mikhail I. - Institute of Structural Macrokinetics and Materials Science RAS (Russia)

Belyavin Klementiy E. – Belarusian National Technical University (Belarus)

Glushchenkov Vladimir A. – Samara National Research University (Russia)

Grigoryev Evgeny G. – NRNU «MEPhI» (Russia)

Dudina Dina V. – Institute of Solid State Chemistry and Mechanochemistry of the Siberian Branch of the Russian Academy of Sciences (Russia)

Khasanov Oleg L. – Tomsk Polytechnic University (Russia)

Kuznetchik Oleg O. – The State Scientific Institution «Powder Metallurgy Institute» (Belarus)

Minko Dmitriy V. – Belarusian National Technical University (Belarus)

Mironov Viktor A. – Riga Technical University (Latvia)

Sizonenko Olga N. – Institute of Impulse Processes and Technologies NAS (Ukraine)

Stolyarov Vladimir V. – Mechanical Engineering Research Institute RAS (Russia)

Strizhakov Evgeny L. – Don State Technical University (Russia)

Technical program committee

Chair: Grigoryev Evgeny G. - NRNU «MEPhI» (Russia)

Guseva Lubov Y. - NRNU «MEPhI» (Russia)

Nefedova Evgenia V. - NRNU «MEPhI» (Russia)

Rubinkovskiy Nikita A. - NRNU «MEPhI» (Russia)

Terekhov Grigoriy P. - NRNU «MEPhI» (Russia)

Yudin Artem V. - NRNU «MEPhI» (Russia)

Zholnin Anatoliy G. - NRNU «MEPhI» (Russia)

Publication committee

Chair: Grigoryev Evgeny G. - NRNU «MEPhI» (Russia)

Nefedova, Evgenia V. - NRNU «MEPhI» (Russia)

Rubinkovskiy Nikita A. - NRNU «MEPhI» (Russia)

Guseva Lubov Y. - NRNU «MEPhI» (Russia)