

## The XV All-Russian (with International Participation) School Seminar on Structural Macrokinetics for Young Researchers in Honour of Academician A.G. Merzhanov

The XV All-Russian (with international participation) School Seminar on Structural Macrokinetics in Honour of Academician A.G. Merzhanov for young researchers was held in Chernogolovka in November 22–24, 2017. The event was organized by the Institute of Structural Macrokinetics and Materials Science of the Russian Academy of Sciences (ISMAN) and supported by the Russian Foundation for Basic Research (RFBR). The Federal Agency of Scientific Organizations, the Russian Academy of Sciences, the Tambov State Technical University, the National Research Technological University “Moscow Institute of Steel and Alloys”, as well as the leading scientific centers on SHS, combustion, explosion, detonation and modern materials science took part in the school seminar.

The seminar covered a wide range of problems related to research in the field of macrokinetics of combustion and explosion processes, self-propagating high-temperature synthesis (SHS), the application of these processes to new materials and products. In addition, modern problems of materials science, thermodynamics, chemical kinetics and metallurgy were discussed.

The School celebrated two anniversaries: the 50<sup>th</sup> anniversary of SHS invention and the 15<sup>th</sup> anniversary of the All-Russian School Seminar on Structural Macrokinetics for Young Researchers in Honour of Academician A.G. Merzhanov.

The representative delegations from the leading universities of our country participated in the event, namely, the NITU “MISiS” (Moscow), Tambov State Technical University (Tambov), Ufa State Aviation Technical University (Ufa), Academician Korolev Samara National Research University and Samara State University (Samara), Ugra State University (Khanty-Mansiysk), Vladimir State University (Vladimir). These universities have been ISMAN’s partners for many years, cooperating in the field of education and science, leading postgraduate and undergraduate programs, working on joint grants and projects. The very fact of active participation of these universities in this year’s School Seminar speaks in favor of such mutually beneficial cooperation. Young researchers from Chernogolovka scientific institutes, scientists from Belarus, Kazakhstan and Ukraine (Donetsk Physical-Technical University) took part in the event. At the opening ceremony O.V. Egorov, the Mayor of Chernogolovka, M.I. Alymov, Corresponding Member of RAS, Rector of ISMAN, and Professor A. Stolin, the Chairman of the Organizing Committee of the School Seminar gave a welcoming speech to the delegates.



The School program included 5 lectures delivered by well-known scientists:

**I.P. Borovinskaya**, Professor, Doctor of Chemical Sciences (ISMAN, Chernogolovka): *From discovery to industrial production*;

**Yu.R. Kolobov**, Doctor of Physical and Mathematical Sciences, Professor of Moscow State University, Scientific Director of Research and Academic Innovation Center “Nanostructured Materials and Nanotechnologies”, (Belgorod State University, Belgorod): *Structure and properties of surface-modified conventional and SHS metal materials*;

**S.D. Shlyapin**, Doctor of Technical Sciences, Professor, Head of Department of Materials Science and Materials Processing Technology (MAI, Moscow): *Preparation, structure and properties of the dispersed-hardened Al-Al<sub>2</sub>O<sub>3</sub> material based on the nanosized PAP-2 powder*;

**B.B. Khina**, D.Sc., Ph.D. (FTI NAS of Belarus, Minsk): *Thermodynamic models of condensed phases in materials science*;

**V.N. Sanin**, Doctor of Technical Sciences, Deputy Director of ISMAN (Chernogolovka): *Chemical and technological aspects of production of cast materials based on polymetallic alloys in frontal combustion*.

At this year’s School Seminar 76 reports of young researchers were presented. The subjects of the reports covered a wide range of problems related to research in the field of macrokinetics of combustion and explosion processes, self-propagating high-temperature synthesis (SHS), the application of these processes to the production of new materials and products. In addition, modern problems of materials science, thermodynamics, chemical kinetics and metallurgy were discussed. It is noteworthy that young researchers are involved in innovative fundamental and applied research.

In line with the existing tradition, the School Seminar attracted very young delegates from the Center for Continuing Education “Impulse”, the Small Academy of Sciences of Chernogolovka, the Physics and Mathematics Lyceum in Sergiev Posad, the Lomonosovlyceum and School No 2 in Noginsk.

The submitted proposal and papers were carefully selected and published in the volume of Proceedings of the 15<sup>th</sup> All-Russian with International Participation School Seminar on Structural Macrokinetics for Young Scientists in honour of Academician A.G. Merzhanov, November 22-24, 2017, ISMAN, Chernogolovka. Compared with the collections of the previous schools, this volume has increased five-fold, which indirectly indicates the increased popularity of the event.

The Special Commission selected the best reports and their authors were awarded with the certificates of honor, an award established by M.I. Alymov, the ISMAN director and O.V. Egorov, the Mayor of Chernogolovka. Schoolchildren received remarkable books written by Academician AG. Merzhanov “It’s better to be necessary than free” and Academician A.L. Buchachenko “Chemistry is the music of nature”.

At the closing ceremony, speakers, participants and guests thanked the organizers for the warm and friendly atmosphere and good organization of the event. The School Seminar on structural macrokinetics, a new promising area of science, both in theoretical and applied aspects contributes to the establishment and expansion of connections between young researchers who have an excellent opportunity to communicate with each other.

Learn more about the program, abstracts and reports presented at the School Seminar at  
<http://www.ism.ac.ru/events/AllRussiaSchool15/indexr.php>

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