

# Preface

The Fifth Moscow International Symposium on Magnetism MISM2011 took place at the Lomonosov Moscow State University, Moscow, Russia, from August 21 to 25, 2011.

This meeting of magnetologists is happened every three years after first symposia held in 1999. During past 12 years MISM grew from a local workshop to the largest international conference on magnetism in Russia. The quantity of participants and scientific level of MISM make it one of the representative conferences in the world.

MISM2011 was dedicated to the centenary of the Prof. K.P.Belov and 80th anniversary of MSU magnetism department, which was created in 1931. The most of the Russian magnetic laboratories working now were based by magnetism department alumni.

Konstantin Belov, world-known magnetologist, was graduated from magnetism department in 1934. His beginning of scientific activity associated with the study of magnetoelastic and electrical phenomena in ferromagnetic metals and its alloys. The found dependencies of the exchange energies on interatomic distances were important for understanding of the properties of invar materials used in technical devices. Extensive researches under the leadership of Konstantin Belov were carried out in the field of magnetism of ferrites. Professor Belov and his collaborators related to the study of magnetic phase transitions, magnetostriction, magnetocaloric and galvanomagnetic phenomena and revealed the essential features of magnetic ordering and conductivity processes in ferrites. Investigations of Konstantin Belov always reflected the latest trends in science. Thus, in 80's years of last century, a study of magnetic semiconductors were carried out at MSU, as a result a new class of magnetic semiconductors with high Curie temperatures (above room temperature) and the presence of special magnetic states – ferrons were found.

The program committee felt the high responsibility for the scientific level of the symposium.

The fifth meeting was opened with a plenary talk of Konstantin Novoselov, a Nobel prize Winner. The main emphasis of the symposium in Moscow was on new developments in low dimensional magnetism, magnetic semiconductors and oxides, transport phenomena and spintronics, magnetophotonics, HF magnetic properties and metamaterials, multiferroics, shape memory alloys and magnetocaloric effects, magnetic properties of the strongly correlated systems and superconductivity, application of magnetic materials in biology medicine, and other applications. The trends of magnetism were also discussed.

The Moscow symposium was attended by 756 participants from 40 countries presenting more than 700 contributions. It was run in 13 parallel sessions for oral presentations, composed of eight plenary lectures, 150 invited and 180 selected talks. The remaining communications were presented as posters divided in three sessions, spanning the 15 planned topics.

There were contributed more than 350 manuscripts. After the peer review process more than 250 manuscripts were accepted for publication in the MISM proceedings, consisting of a two volume - special issue of JMMM (Elsevier publisher) for invited talks and "Solid State Phenomena" (Trans Tech Publications Ltd <http://www.ttp.net>) for other contributions. This volume is presented for you here.

We are grateful to the authors who contributed to this Proceedings for their cooperation. Their assistance has been essential for the high scientific quality and variety of subjects attained in these Proceedings. The Local Organizing and International Advisory Committees would like to thank all participants for their valuable contributions which made this meeting a remarkable success. The Program and Publication Committee would like to thank the session chairpersons and the referees for their help in selecting the abstracts and for providing thorough reviews of the submitted manuscripts.

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Dynasty Foundation (Moscow), Russian Academy of Sciences and Kapitza Institute for Physical Problems, 147th Committee of Japanese Society for Promotion of Science, NT-MDT Nanotechnology. These funds were used for technical support of the sessions, preparing of the books of abstracts and programs, visa support of the foreign participants and partial students support.

As a conclusion we want to note that the work of the Local Organizing Committee members, although working as a team, was the responsibility of each one in his allotted task.

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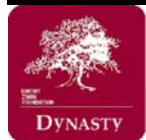
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