Foreword

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The Bogolyubov conference *Problems of Theoretical and Mathematical Physics*, organized by the Russian Academy of Sciences (RAS), the Joint Institute for Nuclear Research (JINR) and Moscow State University was held on August 21–27, 2009 in Moscow (RAS, August 21–22) and in Dubna (JINR, August 23–27), Russian Federation. The Bogolyubov Kyiv Conference *Modern Problems of Theoretical and Mathematical Physics* was continued on September 15–18, 2009 in Kyiv, Ukraine.

The 2009 Conferences were dedicated to the commemoration of the 100th anniversary of the birth of the outstanding scientist—mathematician and theoretical physicist Nikolai Nikolaevich Bogolyubov (21.08.1909–13.02.1992). The last Bogolyubov Conferences were held in Moscow–Dubna on September 2–6, 2004 and in Kyiv on September 13–17, 2004.

The program of the 2009 Conference in Moscow and Dubna has covered the problems of mathematics and nonlinear mechanics, quantum field theory, elementary particle theory, statistical mechanics and kinetics, quantum theory of condensed matter and nuclear physics problems to which N.N. Bogolyubov made a fundamental contribution. The scientific sessions in Moscow and Dubna shared the common interdisciplinary spirit of the Bogolyubov Conferences, and brought together many scientists from over 30 countries with the wide interests in mathematics and theoretical physics.

The Conference program included memorial sessions, plenary talks and parallel sessions. We thank the speakers and all the participants who sent their contributions which allowed us to collect them in time. More than 30 plenary talks were devoted to the most actual problems from mathematics to high energy physics. About 150 original representations of fundamental aspects of mathematics, physics and mechanics were presented at parallel and poster sessions.

We thank all the participants who, attracted by their interest to the Bogolyubov Conference, came together to make this meeting such a success. We would like to thank the staffs of the Russian Academy of Sciences, the Joint Institute for Nuclear Research for hosting the Bogolyubov Conference and providing the help. We extend special thanks to the members of the Local Organizing Committee and the staffs without whose work of which the Conference would not be successful.

On behalf of the Organizing Committee we acknowledge and thank for financial support the Russian Foundation for Basic Research, the Federal Agency of Science and Innovations of the Russian Federation, the Heisenberg-Landau Program (BMBF, Germany-JINR), the Votruba-Blokhintsev program (Czech Republic-JINR), the Bogolyubov-Infeld Program (Poland-JINR), the Dynasty Foundation.

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