Igor Kovalev and Eugene Semenkin (Eds.)

Proceedings of the

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III International Workshop on Modeling, Information Processing and Computing (MIP: Computing-2021)

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Preface

This volume contains the papers presented at the III International Workshop on Modeling, Information Processing and Computing (MIP: Computing-2021) held on 28 May 2021 in Krasnoyarsk, Russia.

The Workshop MIP: Computing-2021 was jointly organized by the International and Russian Union of Scientific and Engineering Associations (Moscow, Russia), Krasnoyarsk Science and Technology City Hall and Siberian Scientific Centre DNIT (Krasnoyarsk, Russia). Bukhara State Engineering Technological Institute (Bukhara, Uzbekistan) was the partner university at the Workshop.

The main partner organizations in preparing and organizing as well in sponsoring the Workshop in Krasnoyarsk as well as of the previous scientific events were Siberian Federal University, JSC "Academician M. F. Reshetnev Information satellite systems" and Krasnoyarsk Scientific Centre of the Siberian Branch of the Russian Academy of Sciences.

The purpose of the Workshop was to share the experience of leading experts in the application of innovative information technologies, mathematical modelling and intelligent systems in science and engineering, industrial production, education, data protection.

The main directions of the Workshop were as follows: Cybernetics, Computation and Simulation Modeling; Applied Mathematics and Business Informatics; Information Technologies, Software Reliability and Data Protection; Information Processing, Software Engineering and Applications.

The international scope of the Workshop was confirmed by the participation of representatives from about 30 foreign and Russian universities and research centers.

- Bryansk State Technical University, Bryansk, Russia
- Bukhara Engineering Technological Institute, Bukhara, Uzbekistan
- China Aviation Industry General Aircraft Zhejiang Institute Co., Ltd, China
- Chuvash State University, Cheboksary, Russia
- ITMO University, Saint Petersburg, Russia
- Joint Stock Company "Russian Space Systems", Moscow, Russia
- Kalashnikov Izhevsk State Technical University, Izhevsk, Russia
- Karachay-Cherkess state university named after U. D. Aliyev, Karachay-Cherkess, Russia
- Kazan Federal University, Kazan, Russia
- Kazan National Research Technological University, Kazan, Russia
- MIREA – Russian Technological University, Moscow, Russia
- Moscow Aviation Institute (National Research University), Moscow, Russia;
- Moscow Institute of physics and technology, Moscow, Russia,
- North Caucasus state Academy, Cherkessk, Russia,
- North-Caucasus Federal University, Stavropol, Russia,
- Peoples' Friendship University of Russia, Moscow, Russia

- Peter the Great St. Petersburg Polytechnic University, St. Petersburg, Russia
- Plekhanov Russian University of Economics, Moscow, Russia
- Reshetnev Siberian State University of Science and Technology, Krasnoyarsk, Russia
- Saint Petersburg State University of Aerospace Instrumentation, Saint Petersburg, Russia
- Saint Petersburg University of State Fire Service of EMERCOM of Russia, Saint Petersburg;
- Samara State Technical University, Samara, Russia;
- Samarkand branch of Tashkent University of information technologies named after Mukhammad al-Khwarizmi, Samarkand, Uzbekistan
- Sevastopol State University, Sevastopol, Russia
- Siberian Federal University, Krasnoyarsk, Russia
- Stock Company «Experimental Design Bureau «Electroavtomatika» named after P A Yefimov, Saint Petersburg, Russia
- Tashkent State Technical University, Tashkent, Uzbekistan
- The Institute for Information Transmission Problems of Russian Academy of Sciences, Moscow, Russia
- Ufa State Petroleum Technological University, Ufa, Russia

All papers are based on presentations made at the Workshop. 57 reports were submitted to the Organizing Committee. 28 reports were selected for inclusion into this Volume after the review process. Out of these 3 were accepted as regular papers and 25 were accepted as short papers. All the papers

were subjected to rigorous peer-review by workshop committee members and international reviewers. The papers were selected based on their quality and relevance to the Workshop directions. The high quality of the scientific content of these papers is due to the efforts of the contributing authors. The Programme Committee members and reviewers represent Germany, Slovenia, Uzbekistan and Russia, have valuable scientific publications in the field of computer science and have a good representation in DBLP (the average number of peer-reviewed DBLP listed papers per author is more than 14).

On behalf of the Workshop Committee and organizers, we would like to thank all the authors who contributed to this Volume as well as to the reviewers, speakers and all the workshop participants for their support to MIP: Computing-2021.

The Workshop Committee highly appreciates the contribution of scientists and professors of Siberian Federal University, Saint Petersburg State University of Aerospace Instrumentation, Sevastopol State University, Bukhara Engineering Technological Institute (Uzbekistan), Moscow Aviation Institute, ITMO University for active participation in the Workshop.

We are thankful to the CEUR Workshop Proceedings (CEUR-WS.org) advisory and management team for providing valuable guidance and for publishing this Workshop proceedings.

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