Preface

The 3rd International Workshop on Information, Computation, and Control Systems for Distributed Environments (ICCS-DE 2021) has been held online July 5-9, 2021 by the Matrosov Institute for System Dynamics and Control Theory (ISDCT) of the Siberian Branch of the Russian Academy of Sciences (SB RAS), Irkutsk, Russia (`https://iccs-de.icc.ru/`) and CICESE Research Center, Ensenada, Mexico (`https://www.cicese.edu.mx/welcome/eng`). It addresses the theory and practice in developing information, computation, and control systems related to different subject domains of information, technical, economic, and other fields of human activity. Particular interest was focused on the systems that operate in various distributed environments.

Our scientific event continues the previous Workshops: ICCS-DE 2019 (`https://iccs-de.icc.ru/en/2019/index.php`) and ICCS-DE 2020 (`https://iccs-de.icc.ru/en/2020/index.php`).

Within the framework of the 3rd International Workshop, we grouped the topics for discussion into the following key directions:

- Information and telecommunication systems,
- Intelligent systems,
- Mathematical modeling of complex systems,
- Parallel and distributed computing systems.

The Workshop was attended by 61 presenters and their co-authors, 34 members of the Program and Organizing Committees, and many listeners from nine countries. The Workshop Program includes 21 reports based on the submitted regular papers and extended abstracts. All submitted works were evaluated based on their originality, novelty, quality, and technical contribution.

Based on the reviews and taking into account the reporting, we have accepted 17 regular papers to publish in the Workshop Proceedings from the 45 submitted works. Thus, we have accepted 37.77% of the total number for the submitted works.

We thank all Program Committee Members and Subreviewers for their help in selecting papers. In addition, we would like to express our gratitude to all members of the Organizing Committee for their contribution in preparing and carrying out the Workshop.

We heartily wish that all participants would be benefited scientifically from this event. Moreover, we sincerely hope that the scientific works represented by the Workshop Proceedings will be in demand by readers, whose research interests are close to Computer Science overall and the Workshop topics in particular.

We assumed to have a physical location of the Workshop. However, all sessions of the Workshop have been held online owing to the difficult epidemiological situation caused by COVID-19 in Irkutsk. Nevertheless, the Workshop allowed us to productive discuss the state and experience of art study.

Next time, let us hope to meet each other personally in order to share new ideas, approaches, and projects related to creating information, computation, and control systems for distributed environments.

July 2021

Igor Bychkov
Andrei Tchernykh
Alexander Feoktistov

International Program Committee

Program Committee Chair

Igor Bychkov, Matrosov Institute for System Dynamics and Control Theory of the Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia

Program Committee Co-Chair

Andrei Tchernykh, CICESE Research Center, Ensenada, Mexico

Program Committee Members

Mikhail Babenko, North-Caucasus Federal University, Stavropol, Russia

Vijay Kumar Chaurasiya, Indian Institute of Information Technology, Allahabad, India

Evgeniy Cherkashin, Matrosov Institute for System Dynamics and Control Theory of the Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia

Jorge Mario Cortés-Mendoza, Department of Computer Engineering, South Ural State University, Chelyabinsk, Russia

Dalibor Dobrilovic, University of Novi Sad, Technical Faculty "Mihajlo Pupin", Zrenjanin, Serbia

Denys Dutykh, CNRS/INSMI, University Savoie Mont Blanc, France

Alexei Edelev, Melentiev Energy Systems Institute of the Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia

Roman Fedorov, Matrosov Institute for System Dynamics and Control Theory of the Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia

Alexander Feoktistov, Matrosov Institute for System Dynamics and Control Theory of the Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia

Sergey Gorsky, Matrosov Institute for System Dynamics and Control Theory of the Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia

Xiwang Guo, Computer and Communication Engineering College, Liaoning Shihua University, Fushun, China

Muddesar Iqbal, Division of Computer Science and Informatics, London South Bank University, London, UK

Peng Jiang, Hangzhou Dianzi University, Hangzhou, China

Ljubica Kazi, University of Novi Sad, Technical Faculty "Mihajlo Pupin", Zrenjanin, Serbia

Alexey Kovtunenko, Ufa State Aviation Technical University, Ufa, Russia

Alexander Legalov, Siberian Federal University, Krasnoyarsk, Russia

Sergio Nesmachnow, Universidad de la República, Montevideo, Uruguay

Nam Hoai Nguyen, IES of the Vietnam Academy of Science and Technology, Hanoi, Vietnam

Alexey Shigarov, Matrosov Institute for System Dynamics and Control Theory of the Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia

Yurii Shokin, Institute of Computational Technologies of the Siberian Branch of the Russian Academy of Sciences, Novosibirsk, Russia

Ivan Sidorov, Matrosov Institute for System Dynamics and Control Theory of the Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia

Sergey Smagin, Computing Center of the Far Eastern Branch of the Russian Academy of Sciences, Khabarovsk, Russia

Zeljko Stojanov, University of Novi Sad, Technical Faculty "Mihajlo Pupin", Zrenjanin, Serbia

Sergey Ul'yanov, Matrosov Institute for System Dynamics and Control Theory of the Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia

Xinheng (Henry) Wang, Department of Electrical and Electronic Engineering Xi'an Jiaotong-Liverpool University, Suzhou, China

Alexander Yurin, Matrosov Institute for System Dynamics and Control Theory of the Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia

Oleg Zaikin, Matrosov Institute for System Dynamics and Control Theory of the Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia

Organizing Committee

Organizing Committee Chair

Alexander Feoktistov, Matrosov Institute for System Dynamics and Control Theory of the Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia

Organizing Committee Member

Olga Basharina, Irkutsk State University, Irkutsk, Russia

Evgeniy Cherkashin, Matrosov Institute for System Dynamics and Control Theory of the Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia

Alexei Edelev, Melentiev Energy Systems Institute of the Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia

Evgeniy Fereferov, Matrosov Institute for System Dynamics and Control Theory of the Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia

Maksim Kenzin, Matrosov Institute for System Dynamics and Control Theory of the Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia

Galina Kononenko, Matrosov Institute for System Dynamics and Control Theory of the Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia

Roman Kostromin, Matrosov Institute for System Dynamics and Control Theory of the Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia