PREFACE

The 19th Russian Conference on Artificial Intelligence (RCAI-2021) continues its more than 30-year history, the starting point of which was the first conference held in Pereslavl-Zalessky in 1988.

The head organizers of the conference are the Russian Association for Artificial Intelligence, Federal Research Center "Computer Science and Control" of Russian Academy of Sciences, Moscow Institute of Physics and Technology (National Research University), and the Southern Federal University.

The conference covers a wide range of current scientific problems related to general issues of artificial intelligence, knowledge engineering, data mining, machine learning, natural language processing, the Semantic Web, cognitive and psychological research, ethical aspects of AI, fuzzy models, soft computing, multi-agent systems and artificial communities, intelligent decision support and control systems, robotic systems, tools for constructing intelligent systems, computer vision and images in artificial intelligence, neural network methods, neuroinformatics, intelligent technologies and applied intelligent systems in industry, social sphere and medicine.

The conference participants are scientists, researchers and specialists from academic institutes, universities, sectoral institutions and organizations from Moscow, St. Petersburg, Apatity, Belgorod, Vladivostok, Volgograd, Irkutsk, Kazan, Kaliningrad, Novosibirsk, Pereslavl-Zalessky, Rostov-on-Don, Samara, Smolensk, Taganrog, Tver, Tomsk, Ulyanovsk.

Plenary reports by well-known scientists and specialists in the field of artificial intelligence from Russia, Great Britain and Mexico were presented at the conference. The National and International Program Committees peer-reviewed the submitted 80 sectional reports and selected 49 ones, the 13 of which were published in this collection of scientific papers.

We dedicate this publication to the memory of our friends and colleagues, members of the Scientific Council of the Russian Association for Artificial Intelligence, who have passed away this year: Valery Tarasov and Anna Yankovskaya.

Valery Tarasov graduated from Bauman Moscow State Technical University and taught there for several decades. He had a wide range of scientific interests in the field of artificial intelligence and related areas. He made a great contribution to the study of soft computing, semiotic modeling, multi-agent systems. Valery Tarasov was a co-founder and devoted member of the Russian Association for Artificial Intelligence and the Russian Association for Fuzzy Systems and Soft Computing. He was the inspirer and organizer of numerous conferences on fuzzy systems and soft computing.

Anna Yankovskaya (1939-2021), the graduate of Tomsk State University, headed its Laboratory of Intelligent Systems and within several decades taught at Tomsk State University of Architecture and Building. Professor Yankovskaya was a member of the Scientific Councils of the Russian Association for Pattern Recognition and the Russian Association for Artificial Intelligence, the European Academy of Sciences and the International Association for Pattern Recognition. Her contribution to discrete mathematics and artificial intelligence is related to matrix knowledge representation, logic control, pattern recognition, test synthesis, and decision making.