

# **Advances in Intelligent Systems and Computing**

Volume 423

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The series “Advances in Intelligent Systems and Computing” contains publications on theory, applications, and design methods of Intelligent Systems and Intelligent Computing. Virtually all disciplines such as engineering, natural sciences, computer and information science, ICT, economics, business, e-commerce, environment, healthcare, life science are covered. The list of topics spans all the areas of modern intelligent systems and computing.

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# Intelligent Systems for Computer Modelling

Proceedings of the 1st European-Middle  
Asian Conference on Computer Modelling  
2015, EMACOM 2015

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# Preface

This volume of *Advances in Intelligent Systems and Computing* contains papers presented at the 1st European-Middle Asian Conference on Computer Modelling—EMACOM 2015. This international conference was conceived as a brand new scientific and social event of mutual collaboration between the VŠB—Technical University of Ostrava (Ostrava, Czech Republic) and the Kyrgyz National University named after Jusup Balasagyn (Bishkek, Kyrgyz Republic).

Considering the vivid heritage of the cooperation between the Czech and Kyrgyz Republics, which dates back to the “Interhelpo” cooperative relations from the early 20s of the twentieth century, this international conference successfully aimed at creating a new modern platform for mutual meetings and exchange of latest research ideas between leading European and Middle-Asian scientists and professionals.

EMACOM 2015 was widely supported by the officials of both countries. It was organized under the patronage of the president (Hejtman) of the Moravian-Silesian Region of the Czech Republic, Mr. Miroslav Novak, the Plenipotentiary Envoy of the Government of Kyrgyz Republic to the Issyk-Kyl Region, Mr. Emilbek Kaptagayev, and the Ministry of Education and Science of the Kyrgyz Republic.

The scientific aim of EMACOM 2015 was to present the latest development in the field of computer-aided modelling as an essential aspect of research and development of innovative systems and their applications. The conference showed that together with simulations, various modelling techniques, enabled and encouraged by the rapid development of high-performance computing platforms, are crucial for cost-efficient design, verification, and prototyping of solutions in many diverse industrial fields spanning the whole range from manufacturing, mining, machinery, and automotive industries to infrastructure planning and development, economics, energy, and modern agriculture and food industry.

EMACOM 2015 was one of the largest international scientific events held in the Kyrgyz Republic in 2015. It was hosted by a modern tourist resort, Raduga, located on shores of the beautiful lake Issyk-Kul—a true natural diamond of the Middle-Asian region. The EMACOM team expresses deep gratitude to the members

of the International Program Committee, local officials and the management of the resort, the publisher of this volume, and, of course, all the authors, for their impressive efforts and contribution to the success of this conference.

August 2015

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