PREFACE

Special section on
Systems Analysis: Modeling and Control

The International Conference on *Systems Analysis: Modeling and Control (Syst2016)* was held in Yekaterinburg (Russia) on 3–8 October 2016, in memory of Arkady Kryazhimskiy, Academician of the Russian Academy of Sciences. The objectives of the conference were to present recent fundamental advances in various fields of systems analysis, control theory, applied mathematics, and economic-environmental applications, as well as to provide an opportunity for participants to share their ideas with colleagues from around the world. *Syst2016* was organized jointly by the Krasovskii Institute of Mathematics and Mechanics of the Ural Branch of the Russian Academy of Sciences and Ural Federal University (Yekaterinburg, Russia). The Steklov Mathematical Institute of the Russian Academy of Sciences (Moscow, Russia), Lomonosov Moscow State University (Moscow, Russia), the International Institute for Applied Systems Analysis (Laxenburg, Austria), and the Committee for Systems Analysis of the Russian Academy of Sciences (Moscow, Russia) acted as co-organizers of the conference.

The agenda of the conference consisted of plenary and section talks. A section for young researchers was also organized. The conference offered a large number of invited lectures delivered by renowned speakers from numerous countries: Russia, Austria, Uzbekistan, Algeria, Finland, France, Poland, Japan, Switzerland, Kyrgyzstan, China, the USA, Spain, and Azerbaijan. There were 34 plenary talks delivered during *Syst2016*. They included, among others, the following:

- A.D. Gvishiani (Russia): *System and discrete mathematical analysis with geophysical applications*
- E.A. Rovenskaya (Austria): *Reconciling information from climate-economic model ensembles*
- T.A. Weber (Switzerland): *Optimal multiattribute screening*
- J. Korbicz (Poland): *Analytical and soft computing models in fault detection and isolation*
- B.S. Mordukhovich (USA): *Optimal control of the sweeping process*
- R. Rabah (France): *On duality between exact controllability and continuous observability for neutral type systems*
- C. Watanabe (Finland/Japan): *Optimal trajectory of ICT-driven disruptive business models: Contrast of co-evolution and legal battle in Uber's ride-sharing revolution*.

A significant asset of the conference was the variety of research topics discussed. Some of them are presented in the papers included in this special section of the *International Journal of Applied Mathematics and Computer Science*, which is devoted to mathematical methods of optimization and control of large-scale systems. We would like to express our gratitude to all the authors for their valuable contributions to *Syst2016*, and also to all the reviewers for their very helpful comments. Our special thanks go to Professor Józef Korbicz, the Editor-in-Chief of the journal, for his engagement in the conference and for inviting us to work as guest editors of this special section.

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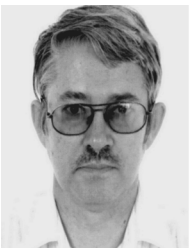

Vyacheslav Maksimov graduated in mathematics and mechanics from Ural State University, Yekaterinburg, Russia, in 1972. He received his Candidate and the Doctor of Physics and Mathematics degrees from the Institute of Mathematics and Mechanics, Ural Branch of the Russian Academy of Sciences, in 1978 and 1992, respectively. Since 1972, he has been with the Institute of Mathematics and Mechanics, Yekaterinburg, Russia. Since 1994, he has been the head of a department at the same institute and a professor at the Chair of Controlled Systems Modeling of the Ural Federal University, Yekaterinburg, Russia. He is the author of more than 150 technical publications, including four monographs, and his research interests are primarily focused on control theory, distributed parameter systems, and mathematical modeling. Doctor Maksimov is a member of the American Mathematical Society (AMS) and of the IFIP TC7 and WG7.2. He has also been a member of editorial boards of various journals.

Boris Mordukhovich graduated in applied mathematics from Belarus State University, Minsk, former Soviet Union, in 1971, and obtained his PhD there in 1973. He is currently a distinguished university professor of mathematics at Wayne State University, Detroit, MI, USA. He has around 400 publications, including several monographs, and engineering patents. Among his best known mathematical achievements are the introduction and development of powerful constructions of generalized differentiation and their applications to broad classes of problems in variational analysis, optimization, equilibrium, control, economics, engineering, and other fields. Doctor Mordukhovich is a fellow of the American Mathematical Society (AMS) and of the Society of Industrial and Applied Mathematics (SIAM). He is also a recipient of many international awards and honors, including honorary doctorates and professorships from eight universities all over the world, academy memberships, etc. He is listed as a highly cited researcher in mathematics.