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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