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Internet of Things, Smart Spaces, and Next Generation Networks and Systems

18th International Conference, NEW2AN 2018
and 11th Conference, ruSMART 2018
St. Petersburg, Russia, August 27–29, 2018
Proceedings

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Preface

We welcome you to the joint proceedings of the 18th NEW2AN (Next Generation Teletraffic and Wired/Wireless Advanced Networks and Systems) and 11th Conference on Internet of Things and Smart Spaces ruSMART (Are You Smart) held in St. Petersburg, Russia, during August 27–29, 2018.

Originally, the NEW2AN conference was launched by ITC (International Teletraffic Congress) in St. Petersburg in June 1993 as an ITC-Sponsored Regional International Teletraffic Seminar. The first edition was entitled "Traffic Management and Routing in SDH Networks" and held by R&D LONIIS. In 2002, the event received its current name, NEW2AN. In 2008, NEW2AN acquired a new companion in Smart Spaces, ruSMART, hence boosting interaction between researchers, practitioners, and engineers across different areas of ICT. From 2012, the scope of ruSMART conference has been extended to cover the Internet of Things and related aspects.

Presently, NEW2AN and ruSMART are well-established conferences with a unique cross-disciplinary mixture of telecommunications-related research and science. NEW2AN/ruSMART is accompanied by outstanding keynotes from universities and companies across Europe, USA, and Russia.

The 18th NEW2AN technical program addressed various aspects of next-generation data networks. This year, special attention was given to advanced wireless networking and applications as well as to lower-layer communication enablers. In particular, the authors demonstrated novel and innovative approaches to performance and efficiency analysis of ad hoc and machine-type systems, employed game-theoretical formulations, Markov chain models, and advanced queuing theory. It is also worth mentioning the rich coverage of graphene and other emerging materials, photonics and optics, generation and processing of signals, as well as business aspects.

The 11th Conference on Internet of Things and Smart Spaces, ruSMART 2018, provided a forum for academic and industrial researchers to discuss new ideas and trends in the emerging areas of the Internet of Things and smart spaces that create new opportunities for fully customized applications and services. The conference brought together leading experts from top affiliations around the world. This year, we saw good participation from representatives of various players in the field, including academic teams and industrial world-leader companies, particularly representatives of Russian R&D centers, which have a good reputation for high-quality research and business in innovative service creation and applications development.

We would like to thank the Technical Program Committee members of both conferences, as well as the associated reviewers, for their hard work and important contribution to the conference. This year, the conference program met the highest quality criteria with an acceptance ratio of around 35%.

The current edition of the conferences was organized in cooperation with National Instruments, IEEE Communications Society Russia Northwest Chapter, YL-Verkot OY, Open Innovations Association FRUCT, Tampere University of Technology, Peter

the Great St. Petersburg Polytechnic University, Peoples' Friendship University of Russia (RUDN University), The National Research University Higher School of Economics (HSE), St. Petersburg State University of Telecommunications, and Popov Society. The conference was held within the framework of the RUDN University Program 5-100.

We also wish to thank all those who contributed to the organization of the conferences. In particular, we are grateful to Nikita Tafintsev and Roman Kovalchukov for their substantial work on supporting the conference website and thier excellent job on the compilation of camera-ready papers and interaction with Springer.

We believe that the 18th NEW2AN and 11th ruSMART conferences delivered an informative, high-quality, and up-to-date scientific program. We also hope that participants enjoyed both technical and social conference components, the Russian hospitality, and the beautiful city of St. Petersburg.

August 2018

Olga Galinina
Sergey Andreev
Sergey Balandin
Yevgeni Koucheryavy

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Contents

ruSMART: New Generation of Smart Services