Preface

We welcome you to the joint proceedings of the 17th NEW2AN conference (Next Generation Teletraffic and Wired/Wireless Advanced Networks and Systems) and the 10th conference on Internet of Things and Smart Spaces, ruSMART (Are You Smart), held in St. Petersburg, Russia, on August 28–30, 2017.

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 event was entitled "Traffic Management and Routing in SDH Networks" and held by R&D LONIIS. In 2002, the event received its current name, the 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 the ruSMART conference has been extended to cover the Internet of Things and related aspects.

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

The 17th NEW2AN technical program addresses 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 10th conference on Internet of Things and Smart Spaces ruSMART 2017 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, the event attracted a high level of 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.

The 3rd International Workshop on Nano-scale Computing and Communications (NsCC 2017) aims to foster the advanced development of nanotechnologies through communication and networking at the nanoscale. Via the communication and networking process, nanonetworks have been formed between nanomachines. The interconnection of nanonetworks to the wider Internet is also envisioned for the future, leading to new paradigms known as the Internet of Nano Things or Internet of Bio-Nano Things. However, unlike traditional communication systems, where devices

have sufficient processing capabilities, this will be a major challenge at the nanoscale. Therefore, this brings along a new set of challenges, as well as new molecular and nanoscale communication paradigms. This year, the workshop included manuscripts that captured the current state of the art in the field of molecular and nanoscale communications, e.g., information, communication and network theoretical analysis of molecular and nanonetworks, mobility in molecular and nanonetworks, novel and practical communication protocols, routing schemes and architectures, design/engineering/evaluation of molecular and nanoscale communication systems, as well as their potential applications and interconnection to the Internet (e.g., Internet of Nano Things). O. Akan, I. Balasingham, S. Balasubramaniam, M. Barros, and C. Han have made the NsCC 2017 a successful event.

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

The conferences and workshop were organized in cooperation with National Instruments, IEEE Communications Society Russia Northwest Chapter, Radiozavod im. A.S. Popova, YL-Verkot OY, Open Innovations Association FRUCT, Tampere University of Technology, St. Petersburg State Polytechnical University, Peoples' Friendship University of Russia (RUDN University), The National Research University Higher School of Economics (HSE), St. Petersburg State University of Telecommunications, and the Popov Society.

We also wish to thank all those who contributed to the organization of the events. In particular, we are grateful to Aleksandr Ometov for his substantial work on supporting the conference website and his excellent job on the compilation of camera-ready papers and interaction with Springer.

We believe that the 17th NEW2AN, 10th ruSMART, and 3rd NsCC 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. The conference is holding in the framework of the RUDN University Competitiveness Enhancement Program "5-100".

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