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# Distributed Computer and Communication Networks

22nd International Conference, DCCN 2019  
Moscow, Russia, September 23–27, 2019  
Revised Selected Papers

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# Preface

This volume contains a collection of revised selected full-text papers presented at the 22nd International Conference on Distributed Computer and Communication Networks (DCCN 2019), held in Moscow, Russia, September 23–27, 2019.

DCCN 2019 is an IEEE (Region 8 + Russia Section) technically cosponsored international conference. It is a continuation of traditional international conferences of the DCCN series, which took place in Sofia, Bulgaria (1995, 2005, 2006, 2008, 2009, 2014); Tel Aviv, Israel (1996, 1997, 1999, 2001); and Moscow, Russia (1998, 2000, 2003, 2007, 2010, 2011, 2013, 2015, 2016, 2017, 2018) in the last 22 years. The main idea of the conference is to provide a platform and forum for researchers and developers from academia and industry from various countries working in the area of theory and applications of distributed computer and communication networks, mathematical modeling, methods of control, and optimization of distributed systems, by offering them a unique opportunity to share their views as well as discuss the perspective developments and pursue collaboration in this area. The content of this volume is related to the following subjects:

1. Communication networks algorithms and protocols
2. Wireless and mobile networks
3. Computer and telecommunication networks control and management
4. Performance analysis, QoS/QoE evaluation, and network efficiency
5. Analytical modeling and simulation of communication systems
6. Evolution of wireless networks toward 5G
7. Centimeter- and millimeter-wave radio technologies
8. Internet of Things and Fog Computing
9. Probabilistic and statistical models in information systems
10. Queuing theory and reliability theory applications
11. High-altitude telecommunications platforms

The DCCN 2019 conference gathered 174 submissions from authors from 26 different countries. From these, 132 high quality papers in English were accepted and presented during the conference. The current volume contains 46 extended papers which were recommended by session chairs and selected by the Program Committee for the Springer post-proceedings.

All the papers selected for the post-proceedings volume are given in the form presented by the authors. These papers are of interest to everyone working in the field of computer and communication networks.

We thank all the authors for their interest in DCCN, the members of the Program Committee for their contributions, and the reviewers for their peer-reviewing efforts.

September 2019

Vladimir Vishnevskiy  
Konstantin Samouylov

# Organization

DCCN 2019 was jointly organized by the Russian Academy of Sciences (RAS), the V.A. Trapeznikov Institute of Control Sciences of RAS (ICS RAS), the Peoples' Friendship University of Russia (RUDN University), the National Research Tomsk State University, and the Institute of Information and Communication Technologies of Bulgarian Academy of Sciences (IICT BAS).

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