

# AICT 2019

## Forward

The Fifteenth Advanced International Conference on Telecommunications (AICT 2019), held between July 28, 2019 and August 02, 2019 in Nice, France, continued a series of events covering a variety of challenging telecommunication topics ranging from background fields like signals, traffic, coding, communication basics up to large communication systems and networks, fixed, mobile and integrated, etc. Applications, services, system and network management issues also received significant attention.

The spectrum of 21st Century telecommunications is marked by the arrival of new business models, new platforms, new architectures and new customer profiles. Next generation networks, IP multimedia systems, IPTV, and converging network and services are new telecommunications paradigms. Technology achievements in terms of co-existence of IPv4 and IPv6, multiple access technologies, IP MPLS network design driven methods, multicast and high speed require innovative approaches to design and develop large scale telecommunications networks.

Mobile and wireless communications add profit to large spectrum of technologies and services. We witness the evolution 2G, 2.5G, 3G and beyond, personal communications, cellular and ad hoc networks, as well as multimedia communications.

Web Services add a new dimension to telecommunications, where aspects of speed, security, trust, performance, resilience, and robustness are particularly salient. This requires new service delivery platforms, intelligent network theory, new telecommunications software tools, new communications protocols and standards.

We are witnessing many technological paradigm shifts imposed by the complexity induced by the notions of fully shared resources, cooperative work, and resource availability. P2P, GRID, Clusters, Web Services, Delay Tolerant Networks, Service/Resource identification and localization illustrate aspects where some components and/or services expose features that are neither stable nor fully guaranteed. Examples of technologies exposing similar behavior are WiFi, WiMax, WideBand, UWB, ZigBee, MBWA and others.

Management aspects related to autonomic and adaptive management includes the entire arsenal of self-ilities. Autonomic Computing, On-Demand Networks and Utility Computing together with Adaptive Management and Self-Management Applications collocating with classical networks management represent other categories of behavior dealing with the paradigm of partial and intermittent resources.

The conference included academic, research, and industrial contributions. It had the following tracks:

- Wireless technologies
- Ad Hoc, autonomic and sensor networks
- Trends on telecommunications features and services
- Architectures and communication technologies for 4G and 5G wireless networks
- New telecommunications technologies
- Future applications and services
- Edge and IoT Application Deployment for 5G Networks

We take here the opportunity to warmly thank all the members of the AICT 2019 technical program committee, as well as all the reviewers. The creation of such a high quality conference program would not have been possible without their involvement. We also kindly thank all the authors who dedicated

much of their time and effort to contribute to AICT 2019. We truly believe that, thanks to all these efforts, the final conference program consisted of top quality contributions.

We also thank the members of the AICT 2019 organizing committee for their help in handling the logistics and for their work that made this professional meeting a success.

We hope that AICT 2019 was a successful international forum for the exchange of ideas and results between academia and industry and to promote further progress in the field of telecommunications. We also hope that Nice, France provided a pleasant environment during the conference and everyone saved some time to enjoy the charm of the city.

#### **AICT 2019 Chairs**

#### **AICT Steering Committee**

Kevin Daimi, University of Detroit Mercy, USA  
Eugen Borcoci, University "Politehnica" of Bucharest (UPB), Romania  
Carlos Becker Westphall, Federal University of Santa Catarina, Brazil  
Tulin Atmaca, Telecom SudParis, France  
Mariusz Głębowski, Poznan University of Technology, Poland  
Mario Freire, University of Beira Interior, Portugal  
Ioannis Moscholios, University of Peloponnese, Greece  
Masayuki Murata, Osaka University Suita, Japan  
Wenzhong Li, Nanjing University, China  
Ali Houssein Harmouch, Lebanese University, Lebanon

#### **AICT Publicity Chair**

Ustijana Rechkoska-Shikoska, University for Information Science and Technology "St. Paul the Apostle" - Ohrid, Republic of Macedonia

#### **AICT Industry/Research Advisory Committee**

Mayank Raj, IBM, USA  
Sergei Semenov, Huawei Technologies, Lund, Sweden  
Dragana Krstic, University of Niš, Serbia  
György Kalman, Norwegian University of Science and Technology, Norway  
Seema Garg, Nokia, India  
Sungsoo Choi, Korea Electrotechnology Research Institute (KERI), South Korea  
Motoyoshi Sekiya, Fujitsu Laboratories Limited, Japan