# AICT 2015

## Foreword

The Eleventh Advanced International Conference on Telecommunications (AICT 2015), held between June 21-26, 2015, in Brussels, Belgium, covered 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.

We take here the opportunity to warmly thank all the members of the AICT 2015 Technical Program Committee, as well as the numerous reviewers. The creation of such a broad and 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 efforts to contribute to AICT 2015. We truly believe that, thanks to all these efforts, the final conference program consisted of top quality contributions.

Also, this event could not have been a reality without the support of many individuals, organizations, and sponsors. We are grateful to the members of the AICT 2015 organizing committee for their help in handling the logistics and for their work to make this professional meeting a success.

We hope that AICT 2015 was a successful international forum for the exchange of ideas and results between academia and industry and for the promotion of progress in the field of telecommunications.

We are convinced that the participants found the event useful and communications very open. We hope that Brussels, Belgium, provided a pleasant environment during the conference and everyone saved some time to enjoy the charm of the city.

#### AICT 2015 Chairs:

#### **AICT Advisory Committee**

Tulin Atmaca, Telecom SudParis, France
Eugen Borcoci, University Politehncia Bucharest, Romania
Michael D. Logothetis, University of Patras, Greece
Go Hasegawa, Osaka University, Japan
Reijo Savola, VTT Technical Research Centre of Finland - Oulu, Finland
Michael Massoth, University of Applied Sciences - Darmstadt, Germany
Mariusz Glabowski, Poznan University of Technology, Poland
Djafar K. Mynbaev, New York City College of Technology - Brooklyn, USA
Dragana Krstic, Faculty of Electronic Engineering, University of Nis, Serbia
Ruediger Gad, University of Applied Sciences Frankfurt am Main, Germany
Erchin Serpedin, Texas A&M University, USA
Mohammed Al-Olofi, Duisburg-Essen University, Germany

#### **AICT Industry/Research Chairs**

Andres Arjona, Nokia Siemens Networks, Japan Michael Atighetchi, Raytheon BBN Technologies-Cambridge, USA Kazuya Tsukamoto, Kyushu Institute of Technology-Fukuoka, Japan Guillaume Valadon, French Network and Information Security Agency, France Sergei Semenov, Broadcom, Finland Abheek Saha, Hughes Systique Corporation, USA John Vardakas, Iquadrat Barcelona, Spain Sladjana Zoric, Deutsche Telekom AG, Bonn, Germany Hussein Kdouh, IETR, France Yasunori Iwanami, Nagoya Institute of Technology, Japan

### AICT Publicity Chair

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