

# AICT 2024

## Forward

The Twentieth Advanced International Conference on Telecommunications (AICT 2024), held between April 14<sup>th</sup> and April 18<sup>th</sup>, 2024, continued a series of international 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 a 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 2024 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 2024. 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 2024 organizing committee for their help in handling the logistics of this event.

We hope that AICT 2024 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.

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