

CALL FOR PAPERS

Symposium on Selected Areas in Communications Track on Access Systems and Networks

Symposium Co-chair

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Sponsoring Technical Committee

Transmission, Access and Optical Systems

Scope

Access networks and systems continue to be an active field of telecommunications research and development. Though much work continues in core architectures, it is recognized that the challenges have moved to the access where a variety of technologies and consumer behavior come together to create difficult technological challenges. Advances in VoIP, IPTV, conventional and high-definition video streaming and multimedia have significantly impacted the access segment of service-provider networks. Moreover, many access lines today terminate on multiple home devices. This has led to a need for home networks that are designed for a blend of multi-computer Internet access, multi-platform entertainment, and voice support. The evolution towards multi-service platforms and the emergence of a spectrum of new IP-based applications are fueling more demand for bandwidth. As service providers, Telcos and Cable MSOs all face the challenge of triple and quadruple play delivery (voice, data, and video to end customers over wired and wireless access technologies), researchers must develop innovative solutions to tackle this challenge.

Broadband access utilizes a variety of transmission media and systems, such as twisted-pair copper based systems (xDSL), coaxial-cable plants, fiber based solutions (passive and active optical networks), wireless systems (Wi-Fi, WiMAX, and cellular technologies), power-lines systems (PLC), and hybrid combinations of these. Different protocols are also required to support both downstream and upstream traffic. Understanding the performance characteristics of all the technological ingredients of tomorrow's access networks/systems is critical for delivering the desired Quality of Service (QoS) to end users.

The aim of this track of the Symposium on Selected Areas on Communications is to provide a forum that brings together scientists and researchers to present their cutting-edge innovations in all aspects of access networks and systems. Papers on practical applications and results from industry and academic/industry collaborations are specifically invited.

Topics

Physical Technologies:

- (i) Twisted pair copper systems and xDSL.
- (ii) Hybrid Fiber Coaxial (HFC) systems.
- (iii) FTTx and Passive/Active Optical Networks (PONs and AONs).
- (iv) Cable TV systems.
- (v) Bluetooth, Wi-Fi, WiMAX, and Cellular Access.
- (vi) Integrated wired/wireless access.
- (vii) Optical-Wireless integration.
- (viii) Free-Space Optical-Access (components, systems, and networks).
- (ix) Digital satellite access technology.

Network architectures, systems aspects and applications:

- (x) Access network architectures and protocols.
- (xi) Service convergence & multimedia networks.
- (xii) Applications (video streaming/IPTV etc.)
- (xiii) Home Networks.
- (xiv) Municipal and community networks.
- (xv) Synchronization (time & frequency) support in the access.
- (xvi) QOS aspects: characterization & provisioning.
- (xvii) Access network survivability and security.
- (xviii) Networked appliances.

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