

3rd International ICST Conference on Mobile Lightweight Wireless Systems



MOBILIGHT 2011

Bilbao, Basque Country, Spain, 9 – 11 May 2011

The worldwide scientific community is witnessing an upsurge of new path-breaking communication-based technologies that have unchained a flurry of research, focusing not only on the fundamental principles of such discoveries themselves, but also on accelerating their transition to a fully-functional and efficient practical implementation. In turn, recent theoretic advances such as cognitive radio processing, compressive sampling, multiterminal MIMO networks, or distributed and cooperative algorithms are currently undergoing intense research effort towards their practical implementation, as evidenced from a plethora of exciting European and national funded projects and consortiums (e.g. NEWCOM++, MIMAX, COGNAC, COMONSENS, REWIND, ARTIST4G, QOSMOS, SACRA, OneFIT, SAPHYRE, ACROPOLIS, EUWB, QASAR). In light of this vibrant activity, the third edition of the International ICST Conference on Mobile Lightweight Wireless Systems (MOBILIGHT 2011) will feature first-rate theoretical and practical research around the latest advances on information, data and signal processing for wireless communications. MOBILIGHT 2011 will be held in Bilbao (Bizkaia, Basque Country, Spain), a beautiful venue internationally recognized for business, trading and its devotion to first-level R&D, as buttressed by more than two hundred technology-based companies and R&D centers established in the region.

MOBILIGHT 2011 targets information exchange and cross-fertilization among academia, research centers and industry through the organization of four complementary tracks, which will compile significant advances on the design of wireless and mobile communications systems. Fundamental research on PHY and network layers will be complemented with a 3rd track covering experimental results and performance evaluation of in-lab testbeds. Besides, contributions on novel mobile services and applications under the “always-on” operational principle will also be considered in a 4th track. Topics of interest include, but are not limited to, the following:

TRACK 1: Information, Data and Signal Processing for Wireless Communications

Information-theoretic limits of multiterminal communication scenarios
Coding theory and techniques
Multiuser detection and interference cancellation
Equalization, channel estimation and synchronization
MIMO and beamforming techniques
Cognitive sensing and radio transmission (including resource allocation and scheduling, cooperative spectrum monitoring, multiobjective optimization, data fusion...)
Distributed (Slepian-Wolf-like) source coding
Iterative (Turbo-like) detection and decoding
Random matrix analysis and free probability theory
Game theory applied to communications
Genetic/heuristic/evolutionary methods for wireless networks
Decentralized and cooperative algorithms for communication and sensor networks (distributed detection and estimation, consensus, distributed control, localization, positioning, navigation and tracking, etc.)
Machine-learning techniques applied to communications
Recent advances in data processing (sampling, compression, compressive sensing, etc...)
Applications of dynamical systems in communications
Physical layer security (secrecy capacity, key generation)
Green communications (energy efficient modulation, coding, resource allocation)

TRACK 3: Implementations and Testbeds

Prototyping of digital communication equipments
Development of hardware MIMO testbeds and performance evaluation
On-site demonstration of avant-garde cognitive radio systems
In-lab performance evaluation

TRACK 2: Information Networking

Wireless (WPAN, WLAN, WMAN/cellular) technology
Congestion and flow control
Practical network coding
Opportunistic routing approaches
Decentralized routing and MAC algorithms
Soft Computing techniques in network topology problems
Artificial Intelligent methods in access control.
Mobility and network management, reliability and security
Multimedia transmission
ARQ methods and their analysis
Relay-based multihop networking
Quality-of-Service provisioning

TRACK 4: Mobile Services and Applications

Anytime, Anywhere, Any device
Interactive multimedia
Ambient assisted living
Usability and HMI
Location and context aware services
Seamless roaming
Emerging and next generation services

IMPORTANT DATES

**Proposals for
Workshops,
Special Sessions,
Tutorials:** *December 22, 2010*

**Submission of papers
due:** *January 28, 2011*

**Notification of
acceptance:** *March 18, 2011*

Final manuscript due: *April 2, 2011*

Conference date: *May 9-11, 2011*

ORGANIZING COMMITTEE:

*Conference General Chairs
Javier Del Ser (TECNALIA-TELECOM, Spain)
Eduard Jorswieck (Dresden University of Technology, Germany)*

*Technical Program Chairs
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*To check out the entire list, please visit:
<http://mobilight.org/committees.shtml>*