

## IEEE PIMRC'16 WORKSHOPS

All Workshops are organised on Sunday 4th September, and will comprise 4 (full-day workshops) or 4 (half-day workshops) sessions of 1.5 hours.

### W1: From M2M Communications to Internet of Things - Full day

The Internet of Things (IoT) and its enabling services are revolutionizing the mobile ecosystem and expected to create further growth for the Telecom industry. At its core, M2M communication plays the role of fundamental enabler. It is estimated that a few tens of billions of connected devices will be deployed by 2025, and a major portion of them are going to be connected wirelessly. M2M communications are expected to open avenues for new type of services and applications such as utility meters, vending machines, telemetry, surveillance, healthcare, transportation, and automotive (e.g., smart traffic, real time traffic information, fleet management, engine monitoring, and reporting)... [see more](#)

Chairs:

Hamid Aghvami, King's College, London, UK.  
Rapeepat Ratasuk, Nokia Bell Labs, Arlington Heights, USA.  
Sassan Iraji, Aalto University, Finland.  
Francesco Militano, Ericsson Research, Sweden.  
Andrés Laya, KTH Royal Institute of Technology, Sweden.  
David Gonzalez Gonzalez, Aalto University, Finland.

Workshop program, [here](#) and the information of the keynotes is [here](#).

### W2: IRACON – Inclusive Radio Communication Networks for 5G and Beyond - Full day

The demand for mobile connectivity is continuously increasing, and by 2020 Mobile and Wireless Communications will serve not only very dense populations of mobile phones and nomadic computers, but also the expected multiplicity of devices and sensors located in machines, vehicles, health systems and city infrastructures. The Inclusive Radio Communications concept defines the technologies for supporting wireless connectivity for any rates, type of communicating units, and scenario. It is expected to be implemented in and beyond the fifth generation (5G) of radio communication networks. Spectral and spatial efficiency are key challenges, in addition to constraints like energy consumption, latency, mobility, adaptability, heterogeneity, coverage, and reliability, amongst others. While many of these aspects are not especially new, the wireless Internet of Things (IoT) beyond 2020 will require revolutionary approaches in Radio Access Technologies... [see more](#)

Chair:

Clavier Laurent, University of Lille, France.

Workshop program, [here](#).

### W3: 6th International Workshop on Self-Organizing Networks (IWSON) - Full day

The interest in the Self-Organizing Network (SON) paradigm applied to wireless communications networks is high, both with respect to existing networks, but also for future radio access technologies beyond LTE and LTE-Advanced. 5G concepts are maturing, and the 6th IWSON with the slogan "On the path towards 5G RAN SON" aims at providing a forum for the early academic/industrial 5G RAN SON discussions. Furthermore, 5G ambitions also include a focus on verticals' applications with end-to-end requirements and network function and cloud virtualization. SON may also be leveraged by recent advances in learning and cognition... [see more](#)

Chairs:

Fredrik Gunnarsson, Ericsson Research, Sweden.  
Zwi Altman, Orange Labs, France.  
Thomas Kürner, Technische Universität Braunschweig, Germany.  
Markus Gruber, Nokia Bell Labs, Germany.  
Lars Christoph Schmelz, Nokia Bell Labs, Germany.  
Kostas Tsagkaris, University of Piraeus, Greece.

Workshop program, [here](#).

### W4: Cognitive Radio and Innovative Spectrum Sharing Paradigms for Future Networks (CRAFT 2016) - Full day

There has been a surge in wireless technologies over the last decade, which has led to the crowding of existing spectrum. In order to address the resulting congestion and shortage of capacity, the cognitive radio (CR) concept has been envisioned in the context of 5G networks. Among other benefits, CR can increase the efficiency of spectrum utilization, and improve the management, performance and coexistence of

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heterogeneous networks with diverse radio access technologies... [see more](#)

Chairs:

Oliver Holland, Centre for Telecommunications Research King's College London, United Kingdom.  
 Adrian Kliks, Poznan University of Technology, Poland.  
 Kareem Emile Baddour, Communications Research Centre Canada, Canada.  
 Panagiotis Demestichas, University of Piraeus, Greece.  
 Faouzi Bader, CentraleSupélec, France.  
 Markus Mueck, INTEL Mobile & Communications Group, Germany.  
 Andres Navarro Cadavid, Universidad Icesi, Colombia.

Workshop program, [here](#).

#### **W5: Internet of Things for Ambient Assisted Living (IoTAAL) - Half day**

Developed countries worldwide are facing a rapidly growing elderly population and a declining workforce, as a result of increased life expectancy and decreased birth rates. The personal communication between elderly people, their environment, and relevant groups of care givers is an important aspect in AAL; the pervasive connectivity needed may leverage the IoT capabilities, to connect humans to smart objects, and put smart objects at the service of users' needs. A specific focus is on low power communication technologies and energy-saving design at/among different layers; security and privacy issues, at single node/object level, and in a system/platform perspective; big data, analytics, and signal processing for AAL enabled by IoT; cloud and mobile cloud architectures supporting AAL through IoT. Researchers from IoT and AAL fields will foster a better common understanding, exchange visions and latest research results, and discuss promising new technologies to tackle open challenges... [see more](#)

Chairs:

Susanna Spinsante, Università Politecnica delle Marche, Italy.  
 Rongshan Yu, Institute for Infocomm Research, Singapore.  
 Nuno Garcia, University of Beira Interior, Portugal.

Workshop program, [here](#).

#### **W6: The International Workshop on mmWave Networks—fundamental limits, protocols, and experimental research platforms (mmWave) - Half day**

Frequency bands above 6 GHz, and especially above 30 GHz, are promising candidates for 5G mobile communications since there is an abundant of spectrum available. Although these millimeter wavelength signals have been used in fixed point-to-point communications, their application in a network of mobile terminals is still in its infancy. The application to mobile communication networks has many challenges including high path loss and body loss, higher penetration and foliage loss, mobility issues, multiple user access, coverage, and deployment issues in urban environments, and much more. Promising techniques include novel beamforming techniques using massive antenna arrays, low form factor chip-scale antennas for base stations and user devices, adaptive backhauling. Despite some progress in the above-mentioned techniques, a complete system design remains elusive... [see more](#)

Chair:

Behnaam Aazhang, Rice University, Houston, EEUU.

Workshop program, [here](#).

#### **W7: 2nd International Workshop on Vehicular Networking and Intelligent Transportation systems (VENITS'16) - Half day**

Over the years, we have witnessed the merging of wireless communications and transportation technologies. This excellent combination of two important fields has propelled our capabilities even further, allowing us to communicate anytime and anywhere, thereby improving the traffic safety, reducing the travel costs, and increasing our life quality tremendously... [see more](#)

Chairs:

Carlos T. Calafate, Technical University of Valencia, Spain.  
 Francisco J. Martinez, University of Zaragoza, Spain.

Workshop program, [here](#).

#### **W8: Deployment perspectives of Physical Layer Security into wireless public RATs - Half day**

Taking into account the necessity to strengthen the security of the radio access of cellular networks, MIMO and Massive MIMO, WLANs, machine type radio-communications and Internet of Thing, to keep resilience when facing advanced passive and active attackers (which may have prior knowledge about victim network, user equipment or subscriber), this full-day workshop will receive an exceptional panel, bringing together academic and industrial researchers and members of standardization bodies. The workshop will present keynote speakers, exhibit theoretical experimental results, oral and poster presentations about the application of Physical layer Security concepts into key-free security schemes into public RATs. During the day, networking will be organized as well as interactive discussions on deployment, regulatory and legal implications of key-free secure schemes based on Physical Layer Security... [see more](#)

Chair:

François Delaveau, Thales Communications and Security, France.

Committee members:

Christiane Kameni, Thales Communications and Security, France.  
 Adrian Kotelba, VTT, Finland.  
 Cong Ling, Imperial College of London, United Kingdom.



