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In recent years wireless communications have significantly evolved due to the advanced technology of smartphones, portable devices and the growth of Internet of Things, e-Health, e-Commerce, intelligent transportation systems and social networking. Forecasted by the Cisco, the wireless mobile traffic will be dominant over the data network by 2017. More recently we have seen the use of Optical Wireless Communications (OWC) in mobile phones as an additional communication technology like cellular systems, Wi-Fi and Bluetooth, in order to solve the spectrum crunch and provide high data rates in urban environment and crowded locations. OWCs offer many advantages such as free license, wide bandwidth, inherent security and no interference, and represent a complementary technology to the radio frequency technologies particularly in the emerging 5G based wireless communication network. Nevertheless, the widespread deployment of OWC systems, namely infra-red and Visible Light Communications (VLC), is facing a number challenges such as the impact of the weather, safety regulation, device performance, compatibility with existing systems, the killer application, complexity and cost. Thus the ongoing need for more research and development in order to address these points as well as other related issues. The propose workshop will cover the entire field of OWC including the VLC and free space optics (FSO). In the last decade we have seen a growing trend in research and development activities in the emerging field of OWC, covering VLC and FSO for indoor and outdoor applications, including underwater communications. For example the EU COST action IC1101 on OPTICWISE the emerging technology, with over 22 member from EU and non-UE countries. The full-day workshop (scheduled tentatively for May 21st) on OWC aims to bring together researchers, scientist, and software and hardware developers from academia and industry, working in the field of OWC, to present, share and discuss their latest research results. High technical quality papers will be solicited to be presented at the workshop.

- All organic based VLCs
- Channel modelling and characterisation
- Channel capacity analysis
- Diversity techniques for OWC
- Dimming, and data communications in VLCs
- FSO communication systems (indoor, outdoor and under water)
- FSO and VLC for IoT, wireless sensor networks, and big data centres
- Hybrid RF/OWC technology
- MIMO for OWC
- Modelling of various noises in optical wireless communications
- Modulation, coding and detection schemes
- Mobile-to-infrastructure and mobile-to-mobile optical communication
- Novel (photonic) devices and components OWC
- OWC and VLC networks: architecture, PHY/MAC design, cross-layer design etc OWC applications
- OWC transceiver design and optimization
- OWC duplexing and multiple access techniques
- OWC networking
- Radio over FSO/VLC
- Underwater OWC
- Ultraviolet communications
- VLC based localisation and sensing

Important Dates:

Paper Submission: 18 November 2016
Notification Date: 17 February 2017
Final Paper: 10 March 2017

Organizing Committee:

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