

**Call for Papers for
Second Workshop on Optical Wireless Communications (OWC)**

Workshop Co-Chairs

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<http://icc2016.ieee-icc.org/cfw>

Scope

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 2016. More recently we have seen the use of Optical Wireless Communications (OWC) in mobile phone as additional communication technology like the cellular, Wi-Fi and Bluetooth in order to solve the spectrum crunch and provide high data rates in urban environment and crowded locations. OWCs offering advantages such as operation in unlicensed bands, wide bandwidth, inherent security and robustness to interference are complementary technology to the radio frequency technologies particularly the emerging 5G wireless communications.

Nevertheless, the widespread deployment of optical wireless systems, namely infra-red and Visible Light Communications (VLC), is challenged by several factors, such as weather effects, safety regulation and device performance. This leads to a great attraction for global researchers to improve the system performance and make it more deployable. Following the success of the first workshop on VLC held in ICC 2015, London, UK with over 50 papers received the organising committee in consultation with the researchers working in this field have decided to organise the next workshop as part of ICC 2016. The 2nd workshop will cover the entire field of Optical Wireless Communications including the VLC. In the last decade we have seen a growing trend in research and development activities in the emerging field of OWC covering VLC and free space communications for indoor and outdoor application including underwater communications. For example the EU COST action IC1101 on OWC has brought together more than 100 researchers from over 22 member countries. Similarly, large scale research programmes were launched in North America and Japan. Most recently, IEEE initiated the standardization activity 802.15.7 on short-range OWC.

The full-day workshop on OWC aims to bring together researchers and software and hardware developers from academia and industry, working in the OWC, to present, share and discuss their latest research results. High technical quality papers will be solicited to be presented at the Workshop. Of particular interests is the following non-exclusive list of principal topics:

Topics of Interest

Topic of interest includes (contributions are not limited to the following):

- All organic based VLCs
- Channel modelling and characterisation
- Channel capacity analysis
- Diversity techniques for OWC
- Dimming, data communications and localisation in VLCs
- Free space optics (indoor, outdoor and under water)
- 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 in
 - device-to-device communications
 - e-Health etc.
 - intelligent transportation systems-Vehicle-to-vehicle and vehicle-to-traffic communications, trains, planes, etc.,
 - inter and intra chip communications
 - Internet of things
 - medical applications
 - next generation wireless networks
 - wireless sensor networks
- OWC transceiver design and optimization
- OWC duplexing and multiple access techniques
- OWC networking
- Underwater OWC communication
- Ultraviolet communications
- Visible light communications (indoor, outdoor and localisation)

International Technical Committee

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Important Dates

Paper submission deadline: December 4, 2015

Acceptance notification: February 21, 2016

Camera-ready paper: March 13, 2016