Wireless Communications and Mobile Computing

Special Issue on

Optical Wireless Communications: An Emerging Technology

CALL FOR PAPERS

The emerging technology of optical wireless communications (OWC) has gained enormous popularity in recent years as complementary technology to optical fiber and radio frequency (RF) based communications for both indoor and outdoor applications. Indoor and outdoor optical wireless communication systems provide many advantages over other wireless technologies, including significantly higher data rates and a large amount of available license-free frequency spectrum. The indoor OWC (i.e., visible light communications (VLC) or Light Fidelity (LiFi)) that use light to carry information through a tetherless channel can offer Gbps connectivity to wireless users. The LiFi market is projected to have a compound annual growth rate of 82% from 2013 to 2018 and to be worth over $6 billion per year by 2018. Despite these major advantages, the widespread deployment of optical wireless systems is hindered by several challenges, such as the demand to maintain strict line-of-sight alignment between transmitter and receiver in some outdoor applications; the need to combat attenuation due to adverse weather conditions such as fog, cloud, and turbulence; and most importantly retaining power levels within the eye safety limits.

We invite researchers to contribute original research articles as well as review articles that address recent advances in optical wireless communications.

Potential topics include but are not limited to the following:

- Advances in communication system design for optical wireless links
- Free space optical (FSO) communications
- Illumination and data communications in VLC systems
- Outdoor and indoor optical wireless channels and network modeling
- Modulation, coding, MIMO, and signal processing techniques for OWC
- Laser satellite communications
- Underwater OWC
- Ultraviolet communications
- Vehicular OWC
- Light communications for intelligent transportation systems
- OWC in medical applications
- OWC in 4G/5G Networks and beyond
- Experimental techniques and challenges in OWC
- Energy efficiency of OWC kinks
- Radio over fiber and FSO systems
- Hybrid RF/FSO systems

Authors can submit their manuscripts through the Manuscript Tracking System at https://mts.hindawi.com/submit/journals/wcmc/owcan/.

Papers are published upon acceptance, regardless of the Special Issue publication date.

Lead Guest Editor
Ehsan Soleimani-Nasab, Graduate University of Advanced Technology, Kerman, Iran
ehsan.soleimani@kgut.ac.ir

Guest Editors
Imran S. Ansari, Texas A&M University at Qatar, Doha, Qatar
imran.ansari@qatar.tamu.edu

Goran T. Djordjevic, University of Nis, Nis, Serbia
goran@elfak.ni.ac.rs

Hung V. Nguyen, University of Southampton, Southampton, UK
hung.nguyen@surrey.ac.uk

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