

# Workshop on Visible Light Communications

## *Call for Papers*

This workshop focuses on the intersection of lighting—illumination with LEDs—and Optical Wireless Communications in what has become to be known as Visible Light Communications.

Due to their tremendous energy efficiency, LEDs have realized widespread adoption as a replacement to conventional incandescent and fluorescent lighting. But they are also prevalent in display technology, mobile devices, and projection systems. In addition to efficiency, LEDs offer longevity, controllability, and significant from a VLC perspective, the capability of being modulated much faster than conventional light sources. With the capability to modulate data at high speed, new applications for light-based positioning, spectral control, and data communication emerge with new characteristics related to the properties of light including, directional wireless access, wavelength division multiplexing, privacy in optically opaque spaces, and novel sensing modalities.

In order to realize the vision of VLC-enabled lighting, sensing, and network systems, a wide variety of technical challenges and integrations are required. These span the physical source devices, circuits, optical design, channel models, sensor devices, signal processing, PHY, MAC and network protocols, and user behavioral models.

The goal of this workshop is to provide a technical forum to present the latest research in in VLC and exchange ideas in this emerging post-radio frequency technology. We welcome contributions from both academic and industry covering a range of topics in VLC including but not limited to the following:

- Indoor and outdoor optical channel modeling and characterization
- Enabling technologies on the physical layer: new LEDs and detectors, advanced modulation methods, equalization and estimation, new signal processing algorithms, etc.
- Topology control, routing and VLC network architecture
- Integration of VLC with PLC, Ethernet, WiFi and Mobile Communications
- Versatile applications of VLC systems/networks: Optical Camera Communications, under water wireless communication, navigation and localization, application in vehicular communications, etc.
- Others.

### **General co-chair**

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**Workshop venue:** Qingdao, China

**Workshop date:** Oct 22<sup>th</sup> 2017

**Tentative Workshop Program:**

13:30 Welcome

13:35-15:00 About 5 invited talks

15:00-15:30 Coffee break

15:30 -17:00 About 5 invited talks

17:00- 17:30 Panel discussion