



Workshop on "Visible Light Communications"

Workshop Co-chairs

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Scope and guidelines

Visible light communications (VLC) is the transmission of information using modulated lights. The use of the visible spectrum is attractive for multiple reasons: 1) the available visible light spectrum is large and unlicensed (more than 10,000 times larger than that of the RF spectrum), 2) VLC easily allows for wavelength division multiplexing (infrared and visible) and 3) VLC can offer secure links and/or high spectrum reusability by the use of highly directional light beams.

The objective of this workshop is to bring together a diverse community of researchers to present and discuss their latest research results. Topics of interest include:

- VLC applications
 - o Vehicle-to-vehicle optical communications.
 - o Vehicle-to-infrastructure optical communications.
 - o Internet-of-Things
 - o Home networks
 - o Medical and industrial applications
- MIMO optical communication techniques.
- Multi user camera communications.
- Indoor positioning using VLC.
- VLC transceiver design.
- Modulation, coding and detection for VLC systems.
- Energy efficiency in VLC.
- Hybrid RF/VLC systems.



Co-chair biographies

Javier Perez-Ramirez was born in 1981 in Malaga, Spain. He received the Telecommunications Engineering degree with specialization in sound and image from the University of Malaga, Spain in 2006 and the M.S. and Ph.D. degrees in electrical engineering from New Mexico State University, Las Cruces, NM, USA, in 2010 and 2015 respectively. From 2005 to 2008, he was a Lecturer with Escenica Technical Studies Center, Andalucia, Spain. Since 2015, he has been a Research Scientist at INTEL labs. His research interests include wireless communications, channel coding, estimation and detection theory, navigation and positioning, hybrid optical/radio-frequency communications and visible light communications.

Soon Xin Ng (Michael) is an Associate Professor in telecommunications at the University of Southampton, UK. He received the BEng degree (First class) in electronic engineering and the Ph.D. degree in telecommunications from the University of Southampton, UK, in 1999 and 2002, respectively. From 2003 to 2006, he was a postdoctoral research fellow working on collaborative European research projects known as SCOUT, NEWCOM and PHOENIX. Since August 2006, he has been a member of academic staff in the School of Electronics and Computer Science, University of Southampton. He was involved in the OPTIMIX and CONCERTO European projects as well as the IU-ATC and UC4G projects. His research interests include adaptive coded modulation, coded modulation, channel coding, space-time coding, joint source and channel coding, iterative detection, OFDM, MIMO, cooperative communications, distributed coding, quantum error correction codes and joint wireless and optical-fibre communications. He is currently leading a team of researchers working on Quantum-assisted and Quantum-based communications. He has published over 190 IEEE research papers and co-authored two John Wiley/IEEE Press books in his research fields. He is a Senior Member of the IEEE, a Chartered Engineer and a Fellow of the Higher Education Academy in the UK

