

# Visible Light Communications: From Theory to Industrial Standardization

**Date:** Tue. 13<sup>th</sup> Nov.

**Time:** 1:10 pm

**Location:** Building 59, Room 2016

**Speaker:**

**Dr. Murat Uysal**

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## **Abstract:**

Visible light communication (VLC) builds upon the ubiquitous presence of LEDs and exploits the existing illumination infrastructure for wireless access. VLC provides high data rate transmission in unregulated optical spectrum and is considered as a powerful complement to radio frequency based solutions in user dense environments or as an alternative in places where radio waves may not be permitted or restricted. In this talk, we first provide an overview of this promising technology and highlight its unique advantages and applications areas. Then, we discuss the commercialization potential and present ongoing international standardization activities which are seen by the industry as a key requirement to address the mass market adoption.

## **Bio:**

Murat Uysal received the B.Sc. and the M.Sc. degree in electronics and communication engineering from Istanbul Technical University, Istanbul, Turkey, in 1995 and 1998, respectively, and the Ph.D. degree in electrical engineering from Texas A&M University, College Station, Texas, in 2001. Dr. Uysal is currently a Full Professor and Chair of the Department of Electrical and Electronics Engineering at Ozyegin University in Turkey. He also serves as the Founding Director of Center of Excellence in Optical Wireless Communication Technologies at the same university. Prior to joining Ozyegin University, he was a tenured Associate Professor at the University of Waterloo, Canada, where he still holds an adjunct faculty position. Dr. Uysal's research interests are in the broad area of communication system engineering with a particular emphasis on the physical layer aspects of wireless communication systems in radio, acoustic and optical frequency bands. He has authored some 300 journal and conference papers on these topics and received more than 9500 citations.

Dr. Uysal is a Senior IEEE member and the Chair of IEEE Turkey Section. Over the years, he has served on the editorial board of several journals including IEEE Transactions on Wireless Communications, IEEE Transactions on Communications, IEEE Transactions on Vehicular Technology, and IEEE Communications Letters. Prof Uysal's major distinctions include the Marsland Faculty Fellowship in 2004, NSERC Discovery Accelerator Award in 2008, University of Waterloo Engineering Research Excellence Award in 2010, Turkish Academy of Sciences Distinguished Young Scientist Award in 2011, Ozyegin University Best Researcher Award in 2014, National Instruments Engineering Impact Award in 2017, and Elginkan Foundation Technology Award in 2018 among others.