

2015 4th International Workshop on Optical Wireless Communications (IWOW 2015)

**Istanbul, Turkey
7-8 September 2015**



**IEEE Catalog Number: CFP15IWP-POD
ISBN: 978-1-4673-7727-0**

Program

09:15 - 10:15

Keynote Speech 1

Addressing Spectrum Scarcity through Optical Wireless Communications
Prof. Dr. Mohamed-Slim Alouini

10:45 - 12:00

IWOW Session 1

Impact of Receiver Orientation and Mobility on Visible Light Communication Link Performance

Clément Le Bas, Stephanie Sahuguede and Anne Julien-Vergonjanne (XLIM- University of Limoges, France); Abdeslam Behloul (University of Poitiers, France); Pierre Combeau (XLIM University of Poitiers, France); Lilian Aveneau (University of Poitiers, France)
pp. 1-5

Multi-band Carrier-less Amplitude and Phase Modulation with Decision Feedback Equalization for Bandlimited VLC systems

Khalid Werfli (Northumbria University, United Kingdom); Paul Anthony Haigh (University of Bristol, United Kingdom); Zabih Ghassemlooy (Northumbria University, United Kingdom); Petr Chvojka and Stanislav Zvanovec (Czech Technical University in Prague, Czech Republic); Sujan Rajbhandari (University of Oxford, United Kingdom); Shihe Long (Ecole Centrale Marseille, France)
pp. 6-10

Optical OFDM with Index Modulation for Visible Light Communications

Ertugrul Basar (Istanbul Technical University, Turkey); Erdal Panayirci (Kadir Has University, Turkey)
pp. 11-15

Performance of Carrier-less Amplitude and Phase Modulation With Frequency Domain Equalization for Indoor Visible Light Communications

Shihe Long and Mohammad-Ali Khalighi (Ecole Centrale Marseille, France); Mike Wolf (Ilmenau University of Technology, Germany); Zabih Ghassemlooy (Northumbria University, United Kingdom); Salah Bourennane (Ecole Centrale Marseille & Fresnel Institute, France)
pp. 16-20

13:15 - 14:45

IWOW Session 2

Modeling of High-capacity Aeronautical Communication Networks with Free-space Optical links

Kai-Daniel Büchter (Bauhaus Luftfahrt e. V., Germany)
pp. 21-25

On the BER of Multiple-Input Multiple-Output Underwater Wireless Optical Communication Systems

Mohammad Vahid Jamali and Jawad Salehi (Sharif University of Technology, Iran)
pp. 26-30

Experimental characterization of intensity scintillation in the LEO downlink

Florian Moll (German Aerospace Center (DLR), Germany)
pp. 31-35

Clear-air Turbulence Effects Modeling on Terrestrial and Satellite Free-Space Optical Channels

Frank S. Marzano, D. Carrozzo and Saverio Mori (Sapienza University of Rome, Italy); Florian Moll (German Aerospace Center (DLR), Germany)
pp. 36-40

Effects of Focused and Collimated Laser Beams on the Performance of Underwater Wireless Optical Communication Links

Aysan Keskin, Fatih Genç, Serap Arpali, Ömer Çatmakaş, Yahya K. Baykal and Çağlar Arpali (Cankaya University, Turkey)
pp. 41-45

15:15 - 16:15

IWOW Poster Session 1

SEP analysis of FSO system employing SIM-MPSK with noisy phase reference

Milica Petkovic (Faculty of Electronic Engineering, Serbia); Goran T Djordjevic (University of Nis, Serbia)
pp. 46-50

Throughput Maximization in Hybrid FSO/RF Communication Systems

Saeede Enayati (Tarbiat Modares University of Tehran, Iran); Hamid Saeedi and Nader Mokari (Tarbiat Modares University, Iran)
pp. 51-54

Non-Line-of-Sight Ultraviolet Communications over Atmospheric Turbulence Channels

Maryam Haghghi, Ardakani, Ali Reza Heidarpour and Murat Uysal (Ozyegin University, Turkey)
pp. 55-59

On the Performance of Satellite-to-Ground Optical Communication over Atmospheric Turbulence Channels with Pointing Errors

Tuğba Özbilgin (Bogazici University & TUBITAK Uekae, Turkey); Selami Şahin (TUBITAK-BILGEM-UEKAE, Turkey)
pp. 60-64

Polarization RIN of VCSEL Subject to Modulation Signal with Variable Polarization Angle of Optical Feedback

Salam Nazhan Ahmed (Northumbria Universty, United Kingdom); Zabih Ghassemlooy and Krishna Busawon (Northumbria University, United Kingdom); Joaquin Perez (Universitat Politecnica de Valencia & Optical and Quantum Communications Group, Spain)
pp. 65-68

09:15 - 10:15

Keynote Speech 2

High-Capacity Free-Space Optical Communications Using Multiplexing of Multiple Orbital-Angular-Momentum Modes

Prof. Dr. Alan Willner

10:30 - 12:00

IWOW Session 3

10 Gbps All-Optical Relay-Assisted FSO System over a Turbulence Channel

Norhanis Aida Mohd Nor (Northumbria University, United Kingdom); Jan Bohata (Czech Technical University in Prague, Czech Republic); Zabih Ghassemlooy (Northumbria University, United Kingdom); Stanislav Zvanovec, Petr Pesek, Matej Komanec and Jiri Libich (Czech Technical University in Prague, Czech Republic); Mohammad-Ali Khalighi (Ecole Centrale Marseille, France)
pp. 69-72

Free-Space Optical Communications with Peak and Average Constraints: High SNR Capacity

Anas Chaaban (King Abdullah University of Science and Technology, Saudi Arabia); Jean-Marie Morvan (Universite Claude Bernard, France); Mohamed-Slim Alouini (King Abdullah University of Science and Technology (KAUST), Saudi Arabia)
pp. 73-77

Free Space Optical Communication with Spatial Diversity Based on Orbital Angular Momentum of Light

Gilda Raof Mehrpoor (University of Erlangen-Nuremberg & School of Advanced Optical Technologies, Germany); Majid Safari (University of Edinburgh, United Kingdom); Bernhard Schmauss (University of Erlangen-Nuremberg & School of Advanced Optical Technologies, Germany)
pp. 78-82

Outage Performance of Multi-Hop Hybrid FSO/RF Communication Systems

Hossein Kazemi (The University of Edinburgh, United Kingdom); Murat Uysal (Ozyegin University, Turkey); Farid Touati (Qatar University, Qatar); Harald Haas (The University of Edinburgh, United Kingdom)
pp. 83-87

Effect of Partial Coherence on MISO FSO Systems

Muhsin Caner Gökçe and Yahya K. Baykal (Cankaya University, Turkey); Murat Uysal (Ozyegin University, Turkey)
pp. 88-92

13:30 - 14:45

IWOW Session 4

MU-MIMO Precoding for VLC with Imperfect CSI

Hanaa Marshoud (Khalifa University of Science, Technology & Research (KUSTAR), UAE); Diana Dawoud (University of Surrey, United Kingdom); Vasileios M. Kapinas and George K. Karagiannidis (Aristotle University of Thessaloniki, Greece); Sami Muhaidat and Bayan S Sharif (Khalifa University, UAE)
pp. 93-97

Non-Orthogonal Multiple Access (NOMA) for Indoor Visible Light Communications

Refik Caglar Kizilirmak (Nazarbayev University, Kazakhstan); Corbett Rowell (Nazarbayev University & Hong Kong University of Science & Technology, Hong Kong); Murat Uysal (Ozyegin University, Turkey)
pp. 98-101

Cooperative OFDM-based Multi-User Visible Light Communication Systems with Limited User Information

Mohamed Kashef and Mohamed M. Abdallah (Texas A&M University at Qatar, Qatar); Khalid A. Qaraqe (Texas A&M University at Qatar, USA)
pp. 102-106

Adaptive Power Control Algorithms in Underwater Wireless Optical CDMA Cellular Networks

Navid BaniHassan (Tarbiat Modares University, Iran); Farhad Akhoundi and Jawad Salehi (Sharif University of Technology, Iran)
pp. 107-111

15:15 - 16:15

IWOW Poster Session 2

A Real-Time Platform for Collaborative Research on Visible Light Communication

Carlos M. Ribeiro (Instituto de Telecomunicações / Instituto Politécnico de Leiria, Portugal); Monica Figueiredo (Polytechnic Institute of Leiria, Portugal); Luis Nero Alves (DETI, Universidade of Aveiro, Instituto de Telecomunicações & Instituto de Telecomunicações, Portugal)
pp. 112-116

Software Defined VLC System: Implementation and Performance Evaluation

Waqas Hussain, Fatih Ugurdag and Murat Uysal (Ozyegin University, Turkey)
pp. 117-121

Development and testing of an indoor VLC simulator

Carlo Capsoni and Dario Tagliaferri (Politecnico di Milano, Italy)
pp. 122-126

Low-Cost NIR Measurement Device

Luka Mustafa (Institute IRNAS Race & IRNAS - Institute for Development of Advanced Applied Systems Rače, Slovenia); Eva Černič (Institute IRNAS Race, Slovenia)
pp. 127-131

Photon Detection Characteristics and Error Performance of SPAD Array Optical Receivers

Elham Sarbazi and Majid Safari (University of Edinburgh, United Kingdom); Harald Haas (The University of Edinburgh, United Kingdom)
pp. 132-136