COMMNET

2018 International Conference on Advanced Communication Technologies and Networking (CommNet)
April 2nd-4th, 2018, Marrakech, Morocco

Conference Program

Organizers:

- ENSIAS College of engineering (Mohammed V University in Rabat)

- Association of Research and Innovation in Science and Technology (ARINST).

Sponsors and partners:

- SupMTI Rabat.

- IEEE Morocco Section.

- Mohammed V University in Rabat.

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About

The 2018 International Conference on Advanced Communication Technologies and Networking (CommNet) is a forum for scientists, engineers, and practitioners to present their latest research results, ideas, developments, and applications in all areas of advanced communication systems and networking.

In this edition, CommNet'18 is held in Marrakech on April 2nd-4th, 2018.

Highlights

- The event is organized by **ENSIAS** college of Engineering and **Association of Research and Innovation in Science and Technology (ARINST)**

- Accepted papers will be published in the CommNet'18 conference proceedings and submitted for inclusion to the leading indexing services: **IEEE Xplore Digital Library, Scopus, Google Scholar, DBLP**.

Topics:

The areas of interest include, but are not limited to:

Track 1: Communication Systems

- **Signal processing for communications**
- **Compressive sensing**
- **Space-time coding, beamforming, Massive MIMO**
- **Diversity techniques, equalization**
- **Source Coding**
- **Channel modeling and estimation**
- **Coding, and decoding algorithms**
- **Modulation, OFDM**
- **Interference management**
- **Multihop & Cooperative communications: Ad hoc, WSN, VANET**
- **M2M and MTC communications**
- **RF circuits for wireless communications**
- **Energy harvesting for communications**
- **Non-orthogonal multiple access (NOMA)**
- **PHY layer security for wireless systems**
- **mmWave Communications**
- **Optical communications**
- **Power Line Communications**
- **Wireless Power Transfer**
- **Green communications**
- **RFID networks and protocols**

Track 2: Security

- **Cryptographic protocols**
- **Network security**
- **Security in embedded system**
- **Security in cloud computing**
- **Cyber security**
- **Security, privacy, and trust in wireless communications**
- **Security, privacy, and trust in social networks**

Track 3: Networking and Cloud Infrastructure

- **Software Defined Networks (SDN)**
- **Network Function Virtualization (NFV)**
- **Softwarization of networks**
- **PHY layer security**
- **Cloud architectures: Fog vs. Cloud vs. Mobile Cloud**
- **Intelligent and application specific routing protocols**
- **Intelligent and application medium access protocols**
- **Network and cloud management**

Track 4: Smart Applications and Services

- **Intelligent Transportation Systems**
- **Smart Cities**
- **Smart Environment**
- **Smart Healthcare**
- **Smart Agriculture**
- **Smart Utilities: Smart Grid, Smart Water, Smart Recycling Services**
- **Smart spaces: Smart Home, Smart Building, Smart Campus**
- **Crowdsensing and Crowdsourcing Applications**
- **Energy harvesting**
- **Social networks**
- **Peer-to-peer applications**
- **Intelligent mobile services**
- **Intelligent services for embedded and wearable electronics**

Conference Location

CommNet'18 is held at "**5-star A" HOTEL Kenzi Farah**" Marrakesh, Morocco during April 2-4, 2018.

> ## ➢ *From Marrakech Menara International Airport (RAK)*

How to get from Marrakesh Menara International Airport (RAK) to the hotel:

The airport is situated 4 miles (6km) south-west of Marrakesh and is approximately a 15min ride in a taxi

to the Kenzi Farah hotel. For more information visit:

www.marrakech.airport-authority.com/

Taxi: 'Petit' taxis are available at Parking Lot 1. Take only those that have a « taxi » sign on the roof of

the car.

Pay the rate displayed on the meter, tipping is optional. When taking a taxi from the airport, you will be

charged an extra fee for luggage.

Small « petit taxi » is usually around 50 Dh (~5 €); a grand taxi around 100 dh (~10 €).

> ## ➢ *From Casablanca Mohamed V International Airport (CMN)*

How to get from Casablanca Mohamed V International Airport (CMN) to Marrakesh:

- **By Plane:**
  There is a direct flight from Casablanca to Marrakesh. The flight duration is 45min. The schedule could be found in the national air company at: **www.royalairmaroc.com**.
- **By Train:**
  You can take the train from Casablanca Airport to Marrakesh train station. First you have to take the train from Casablanca Airport to Casablanca Oasis Train Station (hourly train). Then you have to get off at the station and take the train to Marrakesh Train Station.
  The trip's duration is around 3 hours. You can check the schedule on the official website of the national railway at **www.oncf.ma**. Once you arrive at Marrakesh Train Station, grab a small taxi to the hotel.
- **By Taxi:**
  There are big taxis at the exit of the Casablanca airport that can take you to Marrakesh. Look for the « Grand Taxi » sign in front of the airport exit doors.
  The trip takes around 2hours 30min to get to Marrakesh.

CommNet'18 Main Program

Monday April 2nd, 2018	
08:00-09:00	*Registration*
09:00-09:40	*Opening ceremony*
09:40 -10:20	**Keynote speaker 1 (Room 1)**
	Pr. Mohamed-Slim Alouini, KAUST, Kingdom of Saudi Arabia. **Title:** *"Collimated light propagation: The next frontier in underwater wireless communication"*
10:20-10:50	**Coffee break**
10:50-12h20	**Session 1 (room 1):** Performance Analysis 1 / **Session 2 (room 2)** Antennas and Beamforming 1
12:35-14:00	**Lunch**
14:00-15h40	**Session 3 (room 1)** Antennas and Beamforming 2 / **Session 4 (room 2)** Networking and resource allocation
15h40-16:10	**Coffee break**
16h10-17h40	**Session 5 (room 1)** Information theory / **Session 6 (room 2)** Qos in Networking
19:00-23:00	**Gala Dinner**

CommNet'18 Main Program

Tuesday April 3rd, 2018		
08:30- 09:00	*Registration*	
09:00-9:50	**Keynote speaker 2 (Room 1)**	
	Pr. George K. Karagiannidis, Aristole University of Thessaloniki **Title:** *"RF versus Lightwave Wireless Power Transfer: Research challenges and Future trends"*	
10h05-10:35	**Coffee break**	
10:35-12:15	**Session 7 (room 1)** Applications	**Session 8 (room 2)** Performance Analysis 2
12:30-14:00	**Lunch**	
14:00-15:40	**Session 9 (room 1)** Security & Interference Management	**Session 10 (room 2)** IoT and Smart Grids
15:40-16:10	**Coffee break**	
16:10-17:30	**Session 11 (room 1)** Cloud Networking	
17:30-18:00	**Cocktail**	
18:00-19:30	**City Visit**	

CommNet'18 detailed Technical Program

Registration - (08:00-09:00)

Opening Ceremony - (09:00-09:40)

Keynote speaker 1 - (09:40-10:30)

- ➢ **Speaker:** Mohammed Slim Alouini, KAUST, Kingdom of Saudi Arabia.
- ➢ **Title:** *"Collimated light propagation: The next frontier in underwater wireless communication".*
- ➢ **Session Chair:** Daniel Benevides da Costa, Federal University of Ceará, Brazil.

Coffee Break - (10:30-10:55)

Monday Morning Sessions (10:55-12:25)

- ➢ **Session Title:** Performance analysis 1   **Room 1**
- ➢ **Session Chair:** Mohamed-Slim Alouini, KAUST, Kingdom of Saudi Arabia.

1570414783: Hardware Implementation of Space Modulation Techniques Using Simulink RF Blockset, Omar Hiari and Raed Mesleh (German Jordanian University, Jordan).

1570415006: Mean Squared Error Analysis for OFDMA Signals Under Joint Tx/Rx IQ Imbalance, Lutfi Samara (Qatar University, Qatar), Ridha Hamila and Tamer Khattab (Qatar University, Qatar), Özgür Özdemir (North Carolina State University, USA).

1570417507: A High Accuracy Solver for RTE in Underwater Optical Communication Path Loss Prediction, Elmehdi Illi (University Mohamed V, Morocco), Faissal El Bouanani (ENSIAS, Mohammed V University in Rabat, Morocco), Fouad Ayoub (CRMEF Kenitra, Morocco)

1570443178: **Terahertz Communication: The Opportunities of Wireless Technology Beyond 5G,** Hadeel Elayan (Khalifa University, UAE), Osama Amin (KAUST, Kingdom of Saudi Arabia), Raed Shubair (Massachusetts Institute of Technology, USA), and Mohamed-Slim Alouini (KAUST, Kingdom of Saudi Arabia)

> ➤ **Session Title :** Antennas and beamforming 1 **Room 2**
> ➤ **Session Chair :** Hussain Benazza, Moulay Ismaïl University, Morocco

1570422872: **High Efficiency IEEE 802.11ax MU-MIMO and Frame Aggregation Analysis,** Zineb Machrouh and Abdellah NAJID (National Institute of Posts and Telecommunications, Morocco)

1570426054: **Feedback overhead comparison between Frequency SVD and Time domain beamforming in WLAN context,** Papis Ndiaye, Moussa Diallo, Moustapha Mbaye and Diop Idy (Cheikh Anta Diop University of Dakar, Senegal)

1570426955: **A Novel Detector based on the Compact Genetic Algorithm for MIMO Systems, T**ahiri Noria (Ensias, Mohammed V University in Rabat, Morocco), Ahmed Azouaoui (Faculty of Sciences, Chouaib Doukkali University, Eljadida, Morocco), and Mostafa Belkasmi (Ensias, Mohammed V University in Rabat, Morocco)

1570424388: **Signaling Game-Based Approach to Improve Security in Vehicular Networks,** Abdelfettah Mabrouk, Abdellatif Kobbane, and Mohammed El Koutbi (ENSIAS, Morocco)

Lunch - (12:35-14:00)

Monday Afternoon Session (14:00-15:40)

> ➤ **Session Title :** Antennas and beamforming 2 **Room 1**
> ➤ **Session Chair :** Faissal El Bouanani, Mohammed V University in Rabat, Morocco.

1570403016: **Location-Aware Load Balancing Routing Protocol for LEO Satellite Networks,** Mohammed Hussein, Abdellatif Abu-Issa and Israa Elayyan (Birzeit University, Palestine)

1570413444: **A Compact Microstrip Patch Antenna based on Fractal Geometry on The Ground Plane,** Mohamed Tarbouch, Abdelkebir El amri, Hanae Terchoune, and Ouadiaa Barrou (CED Engineering Sciences ENSEM, Morocco).

1570421379: **Miniaturization of a printed dipole antenna using metamaterials for RFID UHF technology,** Ahmed El yousfi and ES-SALHI Abdenacer (Faculty of sciences, Mohamed I University Oujda, Morocco)

1570419994: **The impacts of dynamic and static resource allocation in a wireless body area network,** Said Lakhal and Zouhair Guennoun (Mohammadia School of Engineering (EMI), Mohammed 5 University, Morocco)

1570421649: **Green Opportunistic Access for Cognitive Radio Networks: A Regret Matching Based Approach,** Safae Lhazmir, Mouna Elmachkour, and Abdellatif Kobbane (ENSIAS, Mohammed V University of Rabat, Morocco)

1570425879: **Breaking LFSR Using Ant Colony Optimization,** Hicham Grari; Ahmed Azouaoui, and Khalid Zine-Dine (Chouaib Doukkali University, EL Jadida, Morocco)

1570426095: **Simulating Worm Propagation in Interconnected Peer-to-Peer Networks,** Mohamed Amine Rguibi and Najem Moussa (University of Chouaib Doukkali, EL Jadida, Morocco)

Coffee Break - (15:40-16:10)

Monday Afternoon Sessions (16:10-17:45)

> **Session Title :** Information theory   **Room 1**
> **Session Chair :** Paschalis. C. Sofotasios, Tampere University of Technology, Finland

1570413547: **New Ant Colony Optimization for searching the minimum distance for linear codes,** Hicham Bouzkraoui (MISC Laboratory, Faculty of Sciences, Ibn Tofail University, Morocco), Ahmed Azouaoui (Faculty of Sciences, Chouaib Doukkali University, Morocco), and Youssef Hadi (MISC Laboratory, Faculty of Sciences, Ibn Tofail University, Morocco)

1570419789: **Bit Error Probability Analysis for Majority Logic Decoding of CSOC Codes over Fading Channels,** Souad Labghough (ENSIAS - Mohammed V University - Rabat, Morocco), Fouad Ayoub (CRMEF Kenitra, Morocco), and Mostafa Belkasmi (ENSIAS - Mohammed V University - Rabat, Morocco)

1570420631: **New Efficient Decoding Algorithm of The (17, 9, 5) Quadratic Residue Code,** Boualame hamza (ENSIAS, University of Rabat, Morocco), Idriss Chana (EST Moulay Ismail University, Meknes, Morocco), and Mostafa Belkasmi (ENSIAS, Mohammed V University - Rabat, Morocco)

1570427085: **Construction and Decoding of OSMLD Codes Derived from Unital and Oval Designs,** Otmane Elmouaatamid (ENSIAS, Mohammed V University in Rabat, Morocco), Mohammed Lahmer (EST, My Ismail University in Meknes,

Morocco), and Mostafa Belkasmi (ENSIAS, Mohammed V University in Rabat, Morocco)

Invited paper: **Capacity Analysis under Generalized Composite Fading Conditions,** Paschalis C. Sofotasios (Khalifa University of Science and Technology, UAE & Tampere University of Technology, Finland), Seong Ki Yoo (Queen's University Belfast), Sami Muhaidat (Khalifa University, UAE), Simon L. Cotton (Queen's University Belfast), Michail Matthaiou (Queen's University Belfast), Mikko Valkama (Tampere University of Technology, Finland), and George K. Karagiannidis (Aristotle University of Thessaloniki, Greece).

> ➢ **Session Title :** Qos In Networking   **Room 2**
> ➢ **Session Chair :** Zouhair Guennoun, Mohammed V University in Rabat, Morocco

1570426100: **Optimizing WSN Lifetime Based On a New Centrality Multi-criteria Routing Approach,** Fouad El hajji, LEGHRIS Cherkaoui , DOUZI Khadija (Faculty of Sciences and Technics, Hassan II University of Casablanca, Mohammadia, Morocco)

1570426105: **Information Sharing Based on Local PSO for UAVs Cooperative Search of Unmoved Targets,** Hassan Saadaoui and Faissal El Bouanani (ENSIAS, Mohammed V University, Rabat, Morocco)

1570426219: **Investigating the Impact of Real-Time Path Planning on Reducing Vehicles Traveling Time,** Younes Regragui and Najem Moussa (Chouaib Doukkali University, El Jadida Morocco).

1570426241: **Dynamics of Network Connectivity in Tactical MANETs,** Younes Regragui and Najem Moussa (Chouaib Doukkali University, El Jadida Morocco).

Gala dinner (19:00-23:00)

Tuesday April 3rd, 2018

Registration - (08:00-09:00)

Keynote speaker 2 - (09:10-09:55)

- ➢ **Speaker:** George K. Karagiannidis, Aristotle University of Thessaloniki, Greece.
- ➢ **Title:** *"RF versus Lightwave Wireless Power Transfer: Research challenges and Future trends"*
- ➢ **Session Chair:** Paschalis. C. Sofotasios, Tampere University of Technology, Finland.

Coffee Break - (09:55-10:25)

Tuesday Morning Sessions (10:25-12:15)

- ➢ **Session Title :** Applications   **Room 1**
- ➢ **Session Chair :** Fouad Ayoub, CRMEF Kenitra, Morocco.

1570422494: On the Performance of Piecewise Linear Approximation Techniques in WSNs, Samia Al Fallah (National School of Applied Sciences, Tangier, Morocco), Mounir Arioua (National School of Applied Sciences, Tetouan, Morocco), Ahmed El Oualkadi (National School of Applied Sciences, Tangier, Morocco), and Jihane EL ASRI (National School of Applied Sciences, Tetouan, Morocco)

1570425079: Suppression of Calculi Growth based on the Mathematical Model of the Pathogenesis of Urolithiasis, Hiroyuki Kagami (Fujita Health University, Toyoake, Japan)

1570425329: Tifinagh Handwritten Character Recognition Using Genetic Algorithms, Lahcen Niharmine (ENSIAS, Mohamed V University, Morocco); Benaceur Outtaj (FSJES Souissi, Mohammed V University, Morocco); Ahmed Azouaoui (Faculty of Sciences, Chouaib Doukkali University, Morocco).

1570425660: New Smart Platform for Automating MPLS Virtual Private Network Simulation, Ayoub Bahnasse, Mohamed Talea, Abdelmajid Badri, and Fatima Ezzahraa Louhab (Hassan II University Casablanca, Morocco)

- ➤ **Session Title :** Performance Analysis 2   **Room 2**
- ➤ **Session Chair :** Paschalis. C. Sofotasios, Tampere University of Technology, Finland.

1570414929: A New Architecture for Enhancing the QoS of IPTV Video Components in LTE Systems, Mohamed Matoui, Noureddine Moumkine, and Abdellah Adib (Faculty of Science and Technology Mohammedia, Morocco).

1570415037: Towards QoS-enabled SDN networks, Farah Chahlaoui and Hamza Dahmouni (Institut National des Postes et Télécommunications, Morocco)

Invited paper: Outage Probability of Multi-Carrier NOMA Systems under Joint I/Q Imbalance, Bassant Selim (Khalifa University, UAE), Sami Muhaidat (Khalifa University, UAE), Paschalis. C. Sofotasios (Khalifa University of Science and Technology, UAE & Tampere University of Technology, Finland), Bayan S. Sharif (Khalifa University, UAE), Thanos Stouraitis (Khalifa University, UAE), George K. Karagiannidis (Aristotle University of Thessaloniki, Greece), and Naofal Al-Dhahir (The University of Texas at Dallas, USA).

Invited paper: Analysis of Differentially Modulated Cooperative Communications over Asymmetric Fading Channels, Sara. AlMaeeni (Mohammed bin Rashid Space Centre, UAE), Paschalis. C. Sofotasios (Khalifa University of Science and Technology, UAE & Tampere University of Technology, Finland), Sami Muhaidat (Khalifa University, UAE), and George. K. Karagiannidis (Aristotle University of Thessaloniki, Greece)

Lunch - (12:35-14:00)

Tuesday Afternoon Session (14:00-15:40)

- ➤ **Session Title :** Security & Interference Management   **Room 1**
- ➤ **Session Chair :** Daniel Benevides da Costa, Federal University of Ceará, Brazil

1570415075: Maximum Achievable Throughput and Interference Mitigation for SUN in Coexistence with WLAN, Saad Mohamed and Ridha Hamila (Qatar University, Qatar); Naofal Al-Dhahir (University of Texas at Dallas, USA); Ala Gouissem and Lazhar Ben-Brahim (Qatar University, Qatar); Moncef Gabbouj (Tampere University of Technology, Finland)

1570425301: **Privacy Increase on Telecommunication Processes,** Siham Arfaoui, Abdelhamid Belmekki and Abdellatif Mezrioui (National Institute of Posts and Telecommunications, Morocco).

1570427111: **Secrecy Outage Probability in Cognitive Radio Networks Subject to Rayleigh Fading Channels,** Mounia Bouabdellah (ENSIAS, Mohammed V University in Rabat, Morocco), Faissal El Bouanani (ENSIAS, Mohammed V University in Rabat, Morocco); Hussain Ben-azza (ENSAM, Moulay Ismail University in Meknes, Morocco)

1570432873: **Physical Layer Security of Interference Limited Land Mobile Satellite Communication Systems,** Vinay Bankey and Prabhat Kumar Upadhyay (Indian Institute of Technology Indore, Madhya Pradesh, India), Daniel Benevides da Costa (Federal University of Ceara (UFC) Sobral, Ceará, Brazil)

> ➢ **Session Title :** IoT and Smart grids   **Room 2**
> ➢ **Session Chair :** Idriss Chana (EST Moulay Ismail University, Meknes, Morocco)

1570414767: **Internet of Things: learning and practices. Application to Smart Home,** Olivier Debauche, Saïd Mahmoudi, Mohammed Amin Belarbi, Mohammed El Adoui, and Sidi Ahmed Mahmoudi (University of Mons, Belgium)

1570420952: **Irrigation pivot-center connected at low cost for the reduction of crop water requirements,** Olivier Debauche (Faculty of engineering, Mons, Belgium); Meryem El Moulat (Faculty of sciences, Mohammed V University, Morocco); Saïd Mahmoudi (Faculty of engineering, Mons, Belgium); Pierre Manneback (Faculty of engineering, Mons, Belgium); Frédéric Lebeau (University of Liège, Belgium)

1570422533: **Virtualization of the Smart Grid using Entity/Relation model,** Imane Worighi (Mohammadia School of Engineers, Mohammed V University, Morocco); Abdelilah Maach (Mohammadia School of Engineers, Mohammed V University, Morocco)

1570426072: **Multipoint Relay Selection through Estimated Spatial Relation in Smart City Environments,** Ayoub Abdellaoui and J.Elmhamdi (ENSET, Mohamed V University, Rabat, Morocco), Halim Berradi (ENSIAS, Mohamed V University, Rabat, Morocco)

Coffee Break - (15:40-16:10)

Tuesday Afternoon Session (16:10-17:30)

> ➢ **Session Title :** Cloud Networking   **Room 1**
> ➢ **Session Chair :** Aaroud Abdessadek, Chouaib Doukkali University, Morocco

1570417583: A Graph-Based Approach for Composite Infrastructure Service Deployment in Multi-Cloud Environment, Driss Riane and Ahmed Ettalbi (ENSIAS, Mohammed V University in Rabat, Morocco).

1570419310: Evaluating AND Gates Over Encrypted Data in Cloud Computing, Ahmed El-yahyaoui and Mohamed Dafir Ech-Cherif El Kettani (ENSIAS, Mohammed V University in Rabat, Morocco)

1570425673: Semantic discovery architecture for dynamic environments of Web of Things, Ismail Nadim, Yassine El Ghayam, and Abdelalim Sadiq (IBN TOUFAIL University, Morocco)

1570425997: A Real-time Chaotic Encryption for Multimedia Data and Application to Secure Surveillance Framework for IoT System, Neila Mekki (University of Tunis El Manar, Tunisia), Mohamed Hamdi (University of Carthage, Tunisia), Taoufik Aguili (University of Tunis El Manar, Tunisia); Tai-hoon Kim (University of Tasmania, Australia).

Cocktail (17:30-18:00)

City visit (18:00-19:30)

Keynote Speaker

Mohamed-Slim Alouini

BIO: Mohamed-Slim Alouini (S'94, M'98, SM'03, F'09) was born in Tunis, Tunisia. He received the Ph.D. degree in Electrical Engineering from the California Institute of Technology (Caltech), Pasadena, CA, USA, in 1998. He served as a faculty member in the University of Minnesota, Minneapolis, MN, USA, then in the Texas A&M University at Qatar, Education City, Doha, Qatar before joining King Abdullah University of Science and Technology (KAUST), Thuwal, Makkah Province, Saudi Arabia as a Professor of Electrical Engineering in 2009.

Prof. Alouini is a Fellow of the Institute of Electrical and Electronics Engineers (IEEE), a member of the Thomson ISI Web of Knowledge list of Highly Cited Researchers, an IEEE Distinguished Lecturer of the IEEE Communications Society, and a co-recipient of best paper awards in ten IEEE conferences (including ICC, GLOBECOM, VTC, PIMRC and DySPAN). His current research interests include the modeling, design, and performance analysis of wireless communication systems.

Title: *"Collimated light propagation: The next frontier in underwater wireless communication"*

ABSTRACT : Traditional underwater communication systems rely on acoustic modems due their reliability and long range. However, their limited data rates, lead to the exploration of alternative techniques. In this talk, we briefly go over the potential offered by underwater wireless optical communication systems. We then summarizes some of the underwater channel challenges going from severe absorption and scattering that need to be surpassed before such kind of systems can be deployed in practice. We finally present some of the on-going research directions in the area of underwater wireless optical communication systems in order to (i) better characterize and model the underwater optical channel and (ii) design, develop, and test experimentally new suitable modulation and coding techniques suitable for this environment.

Keynote Speaker

George K. Karagiannidis

BIO: George K. Karagiannidis is currently Professor in the Electrical & Computer Engineering Dept. and Director of Digital Telecommunications Systems and Networks Laboratory. He is also Honorary Professor at South West Jiaotong University, Chengdu, China.

His research interests are in the broad area of Digital Communications Systems and Signal processing, with emphasis on Wireless Communications, Optical Wireless Communications, Wireless Power Transfer and Applications, Molecular and Nanoscale Communications, Stochastic Processes in Biology and Wireless Security.

He is author or co-author of more than 450 technical papers published in scientific journals and presented at international conferences. He is also co-author of the book "Advanced Optical Wireless Communications Systems", Cambridge Publications, 2012.

He was Editor in IEEE Transactions on Communications, Senior Editor of IEEE Communications Letters, and several times Guest Editor in IEEE Selected Areas in Communications. From 2012 to 2015 he was the Editor-in Chief of IEEE Communications Letters.

Dr. Karagiannidis is one of the highly-cited researchers across all areas of Electrical Engineering, recognized as 2015 and 2016 Thomson Reuters highly-cited researcher.

ABSTRACT: The era of Internet-of-Things (IoT) opens up the opportunity for a number of promising applications in smart buildings, health monitoring, and predictive maintenance. It is remarkable that most of the data consumption/ generation, which are related to IoT applications, occurs in indoor environments. Motivated by this, optical wireless communication (OWC), such as visible light communications (VLC) or infrared (IR), have been recognized as promising alternative/complimentary technologies to RF, in order to give access to IoT devices in indoor applications. However, due to the strong

dependence of the IoT on wireless access, their applications are constrained by the finite battery capacity of the involved devices.

In this talk, for first time will be presented a framework for simultaneous optical wireless information and power transfer, which we call Simultaneous Lightwave Information and Power Transfer (SLIPT), and can be used for indoor IoT applications through VLC or IR systems.