

Tracks :

- Ad Hoc and Sensor Networking (AHSN)
- Connected & Autonomous Vehicles in Land, Water and Sky (CAV-LWS)
- IoT and smart X: Networking, Cloudification and Services (IoT-NCS)
- Mobile Networking and Computing (MNC)
- Wireless Communications (WiC)
- Wireless Models and Simulations (WMS)

Wednesday April 24th, 2019

13:30 - 15:00 - Technical session 1 (WMS & WiC)

Session chair: **Alessandro Chiumento**, Trinity College Dublin, Ireland (chiumenta@tcd.ie)

- 1. Clustering Validation for mmWave Multipath Components in Outdoor Transmissions**
Miead Tehrani Moayyed, Bogdan Antonescu and Stefano Basagni (Northeastern University, USA)
- 2. The TMB path loss model for 5 GHz indoor WiFi scenarios: On the empirical relationship between RSSI, MCS, and spatial streams**
Toni Adame (UPF, Spain); Marc Carrascosa and Boris Bellalta (Universitat Pompeu Fabra, Spain)
- 3. Performance Evaluation of Channel Access Methods for Dedicated IoT Networks**
Abderrahman Ben Khalifa and Razvan Stanica (INSA Lyon, France)
- 4. Characterizing the Indoor Industrial Channel at 3.5 GHz for 5G (Short paper)**
Elijah Adegoke (University of Warwick, United Kingdom (Great Britain)); Robert Michael Edwards and William Whittow (Loughborough University, United Kingdom (Great Britain)); Axel Bindel (HSSMI, United Kingdom (Great Britain))
- 5. A Low PAPR Universal Filtered Multi-Carrier System for 5G Machine Type Communications (Short paper)**
Imran Baig CEng, MIEEE (Dhofar University, Salalah, Sultanate of Oman, Oman); Umer Farooq, Najam Ul Hasan and Manaf Zghaibeh (Dhofar University, Oman); Varun Jeoti (University Teknologi PETRONAS, Malaysia); Muhammad Imran (King Saud University, Saudi Arabia)

15:00 - 16:00 - Technical session 2 (AHSN)

Session chair: TBA

- 1. Spectrum Sensing Performance Analysis for Mobile Primary and Secondary Users in Cognitive Radio Networks (Short paper)**
Kenneth Okello (Egypt-Japan University of Science and Technology, Egypt); Ahmed Hassan Abd El-Malek (Egypt-Japan University for Science and Technology (E-JUST), Egypt); Maha Elsabrouty (Egypt Japan University for Science and Technology, Egypt); Mohamed Abozahhad (Ejust, Egypt)
- 2. Will Blockchain Technology Become a Reality in Sensor Networks? (Short paper)**
Jims Ningshen Marchang, Gregg Ibbotson and Paul Wheway (Sheffield Hallam University, United Kingdom (Great Britain))
- 3. Load- and Interference-Balance Hybrid Routing Protocol for Hybrid Wireless Mesh Network (short paper)**
Yuan Chai and Xiao-Jun Zeng (University of Manchester, United Kingdom (Great Britain))

4. Connectivity-aware Relay Node Deployment in Grid-based Wireless Sensor Networks (Short paper)

Khadidja Tisseli (University of Sciences and Technology Houari Boumediene, Algeria); Chafika Benzaid (USTHB University, Algeria); Nouredine Lasla (Hamda Bin Khalifa University (HBKU), Qatar); Nadjib Badache (University of Sciences and Technology Houari Boumediene (USTHB), Algeria)

16:30 - 18:05 - Technical session 3 (IoT-NCS)

Session chair: **Dimitrios Zorbas, Tyndall National Institute, Ireland**
(dimitrios.zormpas@tyndall.ie)

1. Increased flexibility in long-range IoT deployments with transparent and light-weight 2-hop LoRa approach

Mamour Diop and CongDuc Pham (University of Pau, France)

2. Time-Optimized Task Offloading Decision Making in Mobile Edge Computing

Ibrahim Ahmed Alghamdi, Christos Anagnostopoulos and Dimitrios P Pezaros (University of Glasgow, United Kingdom (Great Britain))

3. Participatory 3D Scanning and Modeling of Cities and Buildings Using 5G mm-Wave Smart Phones

Hossein Ajourloo and Cormac J. Sreenan (University College Cork, Ireland)

4. Password-Based Authenticated Key Exchange Based on Signcryption for the Internet of Things

Van Hoan Hoang (Oodrive & University of La Rochelle, France); Elyes Lehtihet (Oodrive, France); Yacine Ghamri-Doudane (University of la Rochelle, France)

5. In-network Predictive Analytics in Edge Computing (Short paper)

Stefanos Nikolaou (University Of Glasgow, United Kingdom (Great Britain)); Dimitrios P Pezaros and Christos Anagnostopoulos (University of Glasgow, United Kingdom (Great Britain))

Thursday April 25th, 2019

11:00 - 12:30 - Technical session 4 (AHSN)

Session chair : **Floriano De Rango, Universita della Calabria, Italy** (f.derango@dimes.unical.it)

1. A Comparative Analysis of Trust Models for Safety Applications in IoT-enabled Vehicular Networks

Farhan Ahmad (University of Derby, United Kingdom (Great Britain)); Asma Adnane (Loughborough University, United Kingdom (Great Britain)); Fatih Kurugollu (University of Derby, United Kingdom (Great Britain)); Rasheed Hussain (Innopolis University & Information Security and Privacy Lab, Russia)

2. Congestion Control in Wireless Sensor Networks based on Support Vector Machine, Grey Wolf Optimization and Differential Evolution

Hafiza Kazmi (COMSATS University, Islamabad, Pakistan); Nadeem Javaid (COMSATS Institute of Information Technology, Islamabad, Pakistan); Muhammad Imran (King Saud University, Saudi Arabia); Fatma Outay (Zayed University, United Arab Emirates)

3. **A Self Clocked Fair Queuing MAC Approach Limiting Deafness and Round Robin Issues in Directional MANET**
Vincenzo Inzillo (Università Della Calabria, Italy); Floriano De Rango (University of Calabria, Italy); Alfonso Ariza Quintana (University of Malaga, Spain)
4. **A Distributed Cellular Automaton Algorithm for Barrier Formation in Mobile Sensor Networks (Short paper)**
Huw Lloyd and Mohammad Hammoudeh (Manchester Metropolitan University, United Kingdom (Great Britain))
5. **Intrusion Detection Mechanism for IEEE 802.15.4 standard in Wireless Sensor Networks (Short paper)**
Ahmad Naseem Alvi (COMSATS Institute of Information Technology, Pakistan); Hassan Mushtaq and Sajid Ali (COMSATS University, Islamabad, Pakistan); Safdar Hussain Bouk (DGIST, Korea)

11:00 - 12:30 - Technical session 5 (WiC)

Session chair: **Somayeh Mohammady, National University of Ireland Maynooth, Ireland**
(Somayeh.Mohammady@mu.ie)

1. **Peak Shrinking and Interpolating Technique for reducing Peak to Average Power Ratio**
Somayeh Mohammady (National University of Ireland Maynooth (NUIM), Ireland); John Dooley (National University of Ireland Maynooth, Ireland); Ronan Farrell and David Malone (Maynooth University, Ireland)
2. **New Generalized Multistream Spatial Modulation for Wireless Communications**
Nodar Ugreldize (Caucasus University, Georgia); Sergo Shavgulidze (Georgian Technical University, Georgia); Mariam Sordia (Caucasus University)
3. **New Multi-Carrier Candidate Waveform For the 5G Physical Layer of Wireless Mobile Networks**
Mohammad R Kadhum (University of Northampton, United Kingdom (Great Britain))
4. **Optimization of slot allocation in hybrid VLC/RF network for throughput maximization (Short paper)**
Madiha Amjad (National University of Sciences and Technology (NUST), Islamabad, Pakistan); Hassaan Khaliq Qureshi (National University of Sciences and Technology, Pakistan); Sobia Jangsher (Institute of Space Technology, Pakistan)
5. **Improved BER for offset pulse position modulation using priority decoding over VLC system (Short paper)**
Zohaib Ali Farhat (University of Huddersfield, United Kingdom (Great Britain)); Mostafa Ahfayd (University of Huddersfield & University of Huddersfield, United Kingdom (Great Britain)); Peter Mather and Martin Sibley (University of Huddersfield, United Kingdom (Great Britain))

15:00 - 16:00 - Poster session (Short & Poster/Demo papers)

Session chair: **Jack Hodgkiss, Manchester Metropolitan University, UK**
(JACK.HODGKISS@stu.mmu.ac.uk)

1. **Investigating and Revealing Privacy Leaks in Mobile Application Traffic**
Shuhui Chen, Shuang Zhao and Biao Han (National University of Defense Technology, P.R. China); Xiaoyan Wang (Ibaraki University, Japan)

2. **Investigation of the Characteristics of a 5.2 GHz Textile Antenna on a Human Body**
Daisuke Yamanaka and Masaharu Takahashi (Chiba University, Japan)
3. **Millimeter Wave Wireless Link for On-board Chip to Chip Communication**
Tae Hwan Jang, Seongbae Jun, Seung Hun Kim, Hyuk Su Son and Dongmin Kang (Korea Advanced Institute of Science and Technology, Korea); Hyuncheol Park (KAIST, Korea); Chul Soon Park (Korea Advanced Institute of Science and Technology (KAIST), Korea)
4. **A SoC-based SDR platform for ultra-high data rate broadband communication, radar and localization systems**
Markus Petri and Marcus Ehrig (IHP, Germany)
5. **TLTN - The local things network: on the design of a LoRaWAN gateway with autonomous servers for disconnected communities**
Pape Barro (Institute of Mathematics and Physical Sciences, CEA-SMA, Benin & T/ICT4D Marconi Laboratory, ICTP, Italy); Marco Zennaro (ICTP - The Abdus Salam International Centre for Theoretical Physics, Italy); Ermanno Pietrosemoli (International Centre for Theoretical Physics (ICTP) & Fundacion EsLaRed, Italy)
6. **DTNbox: a DTN Application for Peer-to-Peer Directory Synchronization**
Carlo Caini, Marco Bertolazzi and Nicolò Castellazzi (University of Bologna, Italy)
7. **A Performance Analysis of 5G Fronthaul Networks for Long-Distance Communications**
Muhammad Waqar (Sejong University, Korea); Ajung Kim (Sejong Univ, Korea); Je Joon Yoon (Sejong University, Korea)
8. **Toward Intelligent Reconfiguration of RPL Networks using Supervised Learning**
Moussa Aboubakar (Université de Technologie de Compiègne & CEA Saclay, France); Mounir Kellil (CEA LIST, France); Abdelmadjid Bouabdallah (Universite de Technologie - Compiègne, France); Pierre Roux (CEA LIST, France)
9. **UAV Location Optimization for UAV-to-Vehicle Multiple Access Channel with Visible Light Communication**
Refik Caglar Kizilirmak, Akniyet Amantayeva and Moldir Yerzhanova (Nazarbayev University, Kazakhstan)
10. **Evaluation of Virtual Traffic Lights in Presence of Selfish Vehicles**
Marcia Pasin (Federal University of Santa Maria, Brazil); Leonardo de Abreu Schmidt (UFMS, Brazil); Assia Belbachir (IPSA, France); Ana Bazzan (Federal do Rio Grande do Sul, Brazil); Andre Brizzi (Universidade Federal de Santa Maria, Brazil)

16:30 - 18:05 - Technical session 6 (CAV- LWS)

Session chair: **Bastian Bloessl, Trinity College Dublin, Ireland** (mail@bastibl.net)

1. **Modelling Road Congestion Using a Fuzzy System and Real-World Data for Connected and Autonomous Vehicles**
Luke Abberley (Manchester Metropolitan University & Transport for Greater Manchester, United Kingdom (Great Britain)); Keeley Crockett (Manchester Metropolitan University, United Kingdom (Great Britain)); Jianquan Cheng (Manchester Metropolitan University, United Kingdom (Great Britain))
2. **UAV Location Broadcasting with Wi-Fi SSID**
Franco Minucci, Evgenii Vinogradov, Hazem Sallouha and Sofie Pollin (KU Leuven, Belgium)

3. A Case for Good Defaults: Pitfalls in VANET Physical Layer Simulations

Bastian Bloessl (Trinity College Dublin, Ireland); Aisling O'Driscoll (University College Cork, Ireland)

4. Deep Learning-aided Resource Orchestration for Vehicular Safety Communication

Irfan Khan (Eurecom, France); Francois-Xavier Aubet and Marc-Oliver Pahl (Technical University of Munich, Germany); Jérôme Härri (EURECOM, France)

5. Machine Learning for Cooperative Driving in a Multi-Lane Highway Environment (Short paper)

Aashik Chandramohan, Mannes Poel, Bernd Meijerink and Geert Heijenk (University of Twente, the Netherlands)

16:30 - 18:05 - Technical session 7 (MNC)

Session chair : **Nicolas Le Sommer, IRISA, Université de Bretagne Sud, France** (nicolas.le-sommer@univ-ubs.fr)

1. On using eXtreme Gradient Boosting (XGBoost) Machine Learning algorithm for Home Network Traffic Classification

Iyad Lahsen Cherif and Abdesselem Kortebi (Orange Labs, France)

2. Energy Consumption Management for Dense Wi-Fi Networks

Paulo Silva (INESC TEC, Portugal); Rui Campos (INESC TEC and Faculty of Engineering, University of Porto, Portugal); Nuno Almeida (INESC TEC and FEUP, Portugal)

3. Revisiting Downlink Scheduling in a Multi-Cell OFDMA Network: From Full Base Station Coordination to Practical Schemes

Yiğit Özcan and Catherine Rosenberg (University of Waterloo, Canada)

4. Enhancing User Fairness in OFDMA Radio Access Networks Through Machine Learning

Ioan-Sorin Comşa (Brunel University London, United Kingdom (Great Britain)); Sijing Zhang (University of Bedfordshire, United Kingdom (Great Britain)); Mehmet Emin Aydin (University of the West of England, United Kingdom (Great Britain)); Pierre Kuonen (University of Applied Sciences of Western Switzerland, Switzerland); Ramona Trestian (Middlesex University, United Kingdom (Great Britain)); Gheorghita Ghinea (Brunel University, United Kingdom (Great Britain))

5. Performing Service Composition in Opportunistic Networks (Short paper)

Nicolas Le Sommer (IRISA, Université de Bretagne Sud, France); Fadhlallah Baklouti (University of south Brittany (UBS), France); Yves Mahéo (IRISA, Université Bretagne Sud, France)

Friday April 26th, 2019

11:00 - 12:35 - Technical session 8 (WMS)

Session chair: **Demostenes Zegarra Rodriguez, University of Sao Paulo; Nokia Technology Institute, Brazil** (dzegarrar@gmail.com)

1. Komondor: a Wireless Network Simulator for Next-Generation High-Density WLANs

Sergio Barrachina-Muñoz (Universitat Pompeu Fabra, Spain); Francesc Wilhelmi (Pompeu Fabra University, Spain); Ioannis Selinis (University of Surrey, United Kingdom (Great Britain)); Boris Bellalta (Universitat Pompeu Fabra, Spain)

2. **End-to-End Delay Analysis of a Wireless Sensor Network Using Stochastic Network Calculus**
Orangel Azuaje (University of Porto, Portugal); Ana C Aguiar (University of Porto & Instituto de Telecomunicações, Portugal)
3. **SARA - A Semantic Access Point Resource Allocation Service for Heterogenous Wireless Networks**
Qianru Zhou (University of Glasgow, United Kingdom (Great Britain)); Alasdair Gray (Heriot-Watt University, United Kingdom (Great Britain)); Dimitrios P Pezaros (University of Glasgow, United Kingdom (Great Britain)); Steve McLaughlin (Heriot Watt University, United Kingdom (Great Britain))
4. **S-PRAC: Fast Partial Packet Recovery with Network Coding in Very Noisy Wireless Channels**
Kurniawan D. Irianto (Technische Universität Dresden, Germany & Universitas Islam Indonesia, Indonesia); Juan A. Cabrera and Giang T. Nguyen (Technische Universität Dresden, Germany); Hani Salah (TU Dresden, Germany); Frank H.P. Fitzek (Technische Universität Dresden & ComNets - Communication Networks Group, Germany)
5. **Impact of FEC codes on speech communication quality using WB E-model algorithm (Short paper)**
Demostenes Zegarra Rodriguez (University of Sao Paulo & Nokia Technology Institute, Brazil); Miguel Arjona Ramírez (University of São Paulo, Brazil); Leonardo Fernandes Bernardes (UFLA, Germany); Gabriel Mittag and Sebastian Moller (T University, Germany)

14:00 - 15:35 - Technical session 9 (WiC)

Session chair : TBA

1. **An FPGA Design Technique to Receive Multiple Wireless Protocols with the Same RF Front End**
Miriam Leeser, Suranga Handagala, Mohamed Mohamed, Jieming Xu and Marvin Onabajo (Northeastern University, USA)
2. **Credit-Based Relay Selection Algorithm Using Stackelberg Game**
Naumana Ayub (City, University of London, United Kingdom (Great Britain)); Rakocevic Veselin (City University, United Kingdom (Great Britain))
3. **Optimizing Location of Edge Clouds with Baseband Units in Cloud Radio Access Network**
Jonathan Serugunda (Makerere University, Uganda); Jackline Nakazibwe (Makerere University, Kampala Uganda, Uganda); Roseline Akol (Makerere University, Uganda); Stephen S. Mwanje (Nokia Bell Labs, Germany)
4. **What is the Cost of the Index Selector Task for OFDM with Index Modulation?**
Saulo Queiroz (University of Coimbra, Portugal & Federal University of Technology - Parana, Brazil); Joao P. Vilela and Edmundo Monteiro (University of Coimbra, Portugal)
5. **Towards More Scalable and Secure LPWAN Networks Using Cryptographic Frequency Hopping (Short paper)**
Absar Ul Haque Ahmar and Emekcan Aras (KU Leuven, Belgium); Wouter I Joosen (University of Leuven, Belgium); Danny Hughes (KU Leuven, Belgium)

16:00 - 17:40 - Technical session 10 (AHSN)

Session chair : TBA

- 1. Optimal placement of drones for fast sensor energy replenishment using wireless power transfer**
Christelle Caillouet (Université Côte d'Azur & CNRS, Inria, I3S, France); Dimitrios Zorbas (Tyndall National Institute, Ireland); Tahiry Razafindralambo (University of la Reunion, France)
- 2. A Framework for Social Tie Strength Inference in Vehicular Social Networks**
Nardine Basta (University of Ulm, Germany); Amal Elnahas (TheBritish University in Egypt, Egypt); Hans Peter Großmann (Ulm University, Germany); Slim Abdennadher (GUC, Egypt)
- 3. Performance of Geographic Multicast Approach on a Real-life Platform**
Lucas Leão (Université de Franche-Comté & FEMTO-ST, France); Violeta Felea (Université de Franche-Comté, France); Herve Guyennet (University of Franche-Comte, France)
- 4. Bio-Inspired Recruiting Protocol for FANET in Precision Agriculture Domains: Pheromone Parameters Tuning**
Mauro Tropea, Amilcare Francesco Santamaria, Giuseppe Potrino and Floriano De Rango (University of Calabria, Italy)
- 5. Channel Coding and Low Latency HARQ for Industrial Wireless Sensor Networks**
Bashar Husain (University of Duisburg-Essen, Germany); Andreas Czylwik (Universität Duisburg-Essen, Germany)