Technical Program

Tuesday, September 2

09:00 - 10:30

**WDN 1**

*Room: Federal A*
Chair: Suguru Kameda (Tohoku University, Japan)

09:00 **Opening remarks**
Emilio Calvanese Strinati (CEA-LETI, France)

09:15 **[Keynote 1] 3GPP LTE Enhancements and 5G**
Satoshi Nagata (NTT DoCoMo, Inc., Japan)

10:05 **An Averaged-LLR Group Detection for Higher Order MIMO System**
Yuji Yokota (Kyushu Institute of Technology, Japan); Hiroshi Ochi (Kyushu Institute of Technology, Japan)

**WPT1**

Welcome, Introduction & Peter Glaser Memorial Keynotes
*Room: Federal B*
Chair: Darel Preble (Space Solar Power Institute, USA)

09:00 **Welcome and Introduction to Current Challenges for WPT**
Seyed (Reza) Zekavat (Michigan Technological University, USA)

09:15 **Peter Glaser Memorial Address**
Hiroshi Matsumoto-san (Kyoto University, Japan)

09:30 **Solar Power Satellite Frequency Selection**
James McSpadden (Raytheon, USA)

Christopher Valenta (Georgia Tech Research Institute & Electro-optical Systems Laboratory, USA); Gregory Durgin (Georgia Tech, USA)

**WPH1**

Session 1
*Room: New York*
Chair: Raúl Chávez-Santiago (Oslo University Hospital, Norway)

09:00 **From WBAN Today to SmartBAN and Beyond (Keynote Talk)**
John Farserotu (CSEM, Switzerland)

09:30 **The EU COST IC1004 Perspective on Future Wireless Body Scenarios (Invited Talk)**
Narcis Cardona (Universidad Politecnica Valencia, Spain)

09:50 **Wearable Body-to-Body Networks for Critical and Rescue Operations - The CROW² Project**
Elyes Ben Hamida (Qatar Mobility Innovations Center (QMIC), Qatar); Muhammad Mahtab Alam (Qatar Mobility Innovation Center, Qatar); Mickael Maman (CEA-Leti Minatec, France); Benoît Denis (CEA-Leti Minatec, France); Raffaele D'Errico (CEA, LETI, Minatec Campus, France)
10:10 *Uncoordinated Strategies for Inter-BAN Interference*
Mehdi Alasti (Time Warner Cable, USA); Martina Barbi (University of Bologna, Italy); Kamran Sayrafian (NIST, USA)

11:00 - 12:15

**WDN 2**

Room: Federal A  
Chair: Takeo Fujii (The University of Electro-Communications, Japan)

**11:00 Spectral efficiency of Dynamic DAS with extreme downtilt antenna configuration**
Syed Fahad Yunas (Tampere University of Technology, Finland); Mikko Valkama (Tampere University of Technology, Finland); Jarno Niemelä (Elisa Corporation, Finland)

**11:25 Outdoor Millimeter-Wave Access for Heterogeneous Networks - Path Loss and System Performance**
Richard J. Weiler (Fraunhofer HHI, Germany); Michael Peter (Fraunhofer HHI, Germany); Wilhelm Keusgen (Fraunhofer Heinrich Hertz Institute, Germany); Hidekazu Shimodaira (Tokyo Institute of Technology, Japan); Gia Khanh Tran (Tokyo Institute of Technology, Japan); Kei Sakaguchi (Osaka University & Tokyo Institute of Technology, Japan)

**11:50 A Proposal of WLAN Control Scheme Using Separated Channel**
Minzhi Huang (Tohoku University, Japan); Yuji Miyake (Tohoku University, Japan); Suguru Kameda (Tohoku University, Japan); Akinori Taira (Tohoku University, Japan); Noriharu Suematsu (Tohoku University, Japan); Tadashi Takagi (Tohoku University, Japan); Kazuo Tsubouchi (Tohoku University, Japan)

11:00 - 12:40

**WPT2**

Antenna Theory and Practice for Power and Information Transfer  
Room: Federal B  
Chair: Darel Preble (Space Solar Power Institute, USA)

**11:00 Simultaneous Wireless Information and Power Transfer with Co-Channel Interference**
Lansheng Hu (Xi'an Jiaotong University, P.R. China); Chao Zhang (Xi'an Jiaotong University, P.R. China); Jing Xu (Xi'an Jiaotong University, P.R. China)

**11:30 Antenna Theory, Design, and Demonstrations of the Role of Antennas in Wireless Power Transfer Application**
Timothy Cash (Optimal Solutions and Technologies, USA)

**12:00 Using a Pico-satellite Paradigm to Verify and Validate SSP at a Low cost to first power**
James Woods (Silver High Energy, USA)

**12:30 Panel Discussion on WPT Antenna Design**
Christopher Valenta (Georgia Tech Research Institute & Electro-optical Systems Laboratory, USA); Timothy Cash (Optimal Solutions and Technologies, USA); James McSpadden (Raytheon, USA); James Woods (Silver High Energy, USA)

**WPH2**

Session 2  
Room: New York
**11:00 UWB Antenna and Propagation for Wireless Endoscopy**
Kamya Yekeh Yazdandoost (National Institute of Information and Communications Technology, Japan); Kenichi Takizawa (National Institute of Information and Communications Technology, Japan); Ryu Miura (NICT, Japan)

**11:20 Ultra Wideband Propagation for Future In-Body Sensor Networks**
Raúl Chávez-Santiago (Oslo University Hospital, Norway); Concepcion Garcia-Pardo (Universitat Politècnica de València & Institute of Telecommunications and Multimedia Applications (iTEAM), Spain); Alejandro Fornes-Leal (Universitat Politècnica de València, Spain); Ana Valles-Lluch (Universitat Politècnica de València, Spain); Ilangko Balasingham (Norwegian University of Science & Technology & Oslo University Hospital, Norway); Narcis Cardona (Universidad Politecnica Valencia, Spain)

**11:40 Local frequency Offset Spatial Diversity with pi/4-DQPSK in Implant Communications**
Daisuke Anzai (Nagoya Institute of Technology, Japan); Takashi Koya (Nagoya Institute of Technology, Japan); Jianqing Wang (Nagoya Institute of Technology, Japan)

**12:00 Hardware Implementation of an IR-UWB Coordinator Node for WBAN Applications**
Kasun Maduranga Silva Thotahewa (Monash University, Australia); Jean-Michel Redouté (Monash University, Australia); Mehmet Rasit Yuce (Monash University, Australia)

Heikki Karvonen (University of Oulu, Centre for Wireless Communications, Finland); Juha Petäjäjärvi (University of Oulu, Finland); Jari Iinatti (University of Oulu, Finland); Matti Hämäläinen (University of Oulu, Finland); Carlos A Pomalaza-Ráez (University of Oulu, Finland)

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**14:00 - 15:40**

**WDN 3**

Room: Federal A
Chair: Hadi Baligh (Huawei Canada, Canada)

**14:00 [Keynote 2] Multi-radio Heterogeneous Networks within 5G Cellular Networks**
Konstantinos D Dimou (Intel Labs, USA)

**14:50 Enhanced HMIPv6 with Cascaded Tunnel**
Zhiwei Yan (CNNIC, P.R. China); Xiaodong Lee (CNNIC, P.R. China); Yong Jin Park (Waseda University, Japan)

**15:15 A Novel Cell Selection Scheme Using Positioning Information for Heterogeneous Wireless System**
Junpei Kuboniwa (Tohoku University, Japan); Yuji Miyake (Tohoku University, Japan); Suguru Kameda (Tohoku University, Japan); Akinori Taira (Tohoku University, Japan); Noriharu Suematsu (Tohoku University, Japan); Tadashi Takagi (Tohoku University, Japan); Kazuo Tsubouchi (Tohoku University, Japan)

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**WPT3**

New Answers to Old Challenges for Space Solar Power

Room: Federal B
Chair: Seyed (Reza) Zekavat (Michigan Technological University, USA)

**14:00 Over the Horizon Wireless Power Transmission, a Low-Cost Precursor for Space Solar Power**
Chengcheng Zhang (Beijing University of Posts and Telecommunications, P.R. China); Hui Zhao (Beijing University of Posts and Telecommunications, P.R. China); Wenfang Li (Beijing University of Posts and Telecommunications, P.R. China); Kan Zheng (Beijing University of Posts & Telecommunications, P.R. China); Juwo Yang (Beijing University of Posts and Telecommunications (BUPT), P.R. China)

14:50 Challenges of Wireless Power Transfer for Prolonging User Equipment (UE) Lifetime in Wireless Networks
Melike Erol-Kantarci (University of Ottawa, Canada); Hussein Mouftah (University of Ottawa, Canada)

15:15 Panel Discussion on System Optimization for WPT lifetime optimization
Melike Erol-Kantarci (University of Ottawa, Canada); Tanwin Chang (Deep Phase Labs, USA); Chengcheng Zhang (Beijing University of Posts and Telecommunications, P.R. China)

16:10 - 17:50
WDN 4
Room: Federal A
Chair: Hadi Baligh (Huawei Canada, Canada)

16:10 Cell Association Method for Multiband Heterogeneous Networks
Hidekazu Shimodaira (Tokyo Institute of Technology, Japan); Gia Khanh Tran (Tokyo Institute of Technology, Japan); Kiyomichi Araki (Tokyo Institute of Technology, Japan); Kei Sakaguchi (Osaka University & Tokyo Institute of Technology, Japan); Shinobu Nanba (KDDI R&D Laboratories, Inc., Japan); Takahiro Hayashi (KDDI R&D Laboratories Inc., Japan); Satoshi Konishi (KDDI Corporation, Japan)

16:35 Panel session

17:40 Closing remarks
Mehdi Bennis (Centre of Wireless Communications, University of Oulu, Finland)

16:10 - 18:00
WPT4
Room: Federal B
Chair: Seyed (Reza) Zekavat (Michigan Technological University, USA)

16:10 Space Solar Power - Energy, Economy and Environmental Issues for Today and Tomorrow
Darel Preble (Space Solar Power Institute, USA)

16:46 NSF Investments in Solar Energy
Gregory Rorrer (National Science Foundation, USA)

17:16 Panel Discussion on Sustainable Solar Energy Policy and Investment in Renewable Energy Policy
Darel Preble (Space Solar Power Institute, USA); Gregory Rorrer (National Science Foundation, USA); Gail Tverberg (Space Solar Power Institute, USA)
08:50 - 09:40

**P1: Plenary 1**

Room: Presidential Ballroom

09:40 - 10:30

**P2: Plenary 2**

Room: Presidential Ballroom

11:00 - 12:40

**PHY04: Limited / Implicit Feedback**

Room: California Room
Chair: Meilong Jiang (InterDigital Communications, LLC, USA)

11:00 **Reliable Implicit Feedback Generation in Unsynchronized CoMP Transmission**
Stanislaus Iwelski (University of Duisburg-Essen, Germany); Zijian Bai (University of Duisburg-Essen, Germany); Erfan Majeed (University of Duisburg-Essen, Germany); Guido Bruck (University of Duisburg-Essen, Germany); Peter Jung (Universität Duisburg-Essen, Germany); Biljana Badic (Intel, Germany); Tobias Scholand (Intel, Germany); Rajarajan Balraj (Intel, Germany); Chun-hsuan Kuo (Intel Inc., USA)

11:20 **Precoder design for space shift keying in MIMO systems with limited feedback**
Ming-Chun Lee (National Chiao Tung University, Taiwan); Wei-Ho Chung (Academia Sinica, Taiwan); Ta-Sung Lee (National Chiao Tung University, Taiwan)

11:40 **Combining Calibration Schemes on a Real-time Multiuser MIMO-OFDM System with Implicit Feedback**
Hayato Fukuzono (NTT Corporation, Japan); Tomoki Murakami (NTT Corporation, Japan); Riichi Kudo (NTT Corporation, Japan); Shoko Shinohara (NTT, Japan); Yasushi Takatori (NTT Network Innovation Laboratories, Japan); Masato Mizoguchi (NTT, Japan)

12:00 **A Joint Real Grassmannian Quantization Strategy for SISO IA with Limited Feedback**
Wen Wu (University of Science and Technology of China, P.R. China); Xu Li (University of Science and Technology of China, P.R. China); Huarui Yin (University of Science and Technology of China, P.R. China); Chen Zhang (University of Science and Technology of China, P.R. China); Guo Wei (University of Sci. & Tech. of China, P.R. China)

12:20 **MIMO-OFDM Channel Feedback Based on Distributed Compressive Sensing: A New Perspective**
Cheng Peng (CSIRO Computational Informatics, Australia); Zhuo Chen (CSIRO ICT Centre, Australia); Chang Kyung Sung (CSIRO, Australia)

**PHY01: Physical Layer Security I**

Room: Federal A
Chair: Viranjay M Srivastava (University of KwaZulu-Natal, Durban & South Africa, South Africa)

11:00 **Compressive Sensing based Decryption Method for Covert CDD-OFDM Transmission**
Yuhan Zheng (Beijing University of Posts and Telecommunications, P.R. China); Fei Qi (Beijing University of Posts and Telecommunication, P.R. China); Xinzhou Cheng (Beijing Telecom Planning and Designing Institute Co., Ltd., P.R. China); Xiao jun Jing (Collaborative, P.R. China); Hai Huang (Beijing University of Posts and
11:20 Robust Transmission for Simultaneous Wireless Information and Power Transfer Systems with Secrecy Constraints  
Haiyang Zhang (Southeast University, P.R. China); Yongming Huang (Southeast University, P.R. China); Yang Luxi (Southeast University, P.R. China)

11:40 Joint Transceiver Design for Secure Communication with Power Transfer  
Seungjae Jung (Korea Advanced Institute of Science and Technology (KAIST), Korea); Seongah Jeong (Korea Advanced Institute of Science, Korea); Joonhyuk Kang (KAIST, Korea)

12:00 Opportunistic User Selection with Adaptive Jamming for Secure Communication in Heterogeneous Networks  
Inkyu Bang (Korea Advanced Institute of Science and Technology, Korea); Su Min Kim (KTH Royal Institute of Technology, Sweden); Dan Keun Sung (Korea Advanced Institute of Science and Technology, Korea)

12:20 Creating Secure Wireless Regions using Configurable Beamforming  
Yuanrui Zhang (Queen's University Belfast & ECIT, United Kingdom); Alan Marshall (University of Liverpool, United Kingdom); Roger Woods (Queens University Belfast, United Kingdom); Youngwook Ko (Queen's University Belfast, United Kingdom)

PHY02: Channel Modelling and Simulation I

Room: Federal B  
Chair: Michael Cheffena (Gjøvik University College, Norway)

11:00 Statistical Path Loss Model for Dynamic Off-Body Channels  
Michal Mackowiak (INOV-INESC / IST - University of Lisbon, Portugal); Luis M. Correia (IST - University of Lisbon & INOV-INESC, Portugal)

John Fakidis (The University of Edinburgh, United Kingdom); Muhammad Ijaz (University of Edinburgh, United Kingdom); Stepan Kucera (Bell Labs, Alcatel-Lucent Ltd., Ireland); Holger Claussen (Bell Labs, Alcatel-Lucent, Ireland); Harald Haas (The University of Edinburgh, United Kingdom)

11:40 Vehicle-to-Vehicle Radio Channel Characterization in Urban Environment at 2.3 GHz and 5.25 GHz  
Antti Roivainen (Centre for Wireless Communications, Finland); Laddu Praneeth Roshan Jayasinghe (University of Oulu, Finland); Juha Meinilä (Elektrobit Corporation, Finland); Veikko Hovinen (University of Oulu, Finland); Matti Latva-aho (UOulu, Finland)

12:00 Industrial Indoor Multipath Propagation - A Physical-Statistical Approach  
Michael Cheffena (Gjøvik University College, Norway)

12:20 Statistics of the Product of Arbitrary alpha-mu Variates with Applications  
Elvio J Leonardo (State University of Maringa (UEM), Brazil); Michel Daoud Yacoub (State University of Campinas, Brazil)

MWN3: Dynamic spectrum management

Room: Massachuettes

11:00 Beyond eICIC-Two-dimensional Resource Pattern Optimization for Macro-Femto Interference Avoidance  
Peng Liu (Xidian University, P.R. China); Jiandong Li (Xidian University, P.R. China); Hongyan Li (Xidian University, P.R. China); Yun Meng (Xidian University, P.R. China)

11:20 AP Cooperative Diversity in Wireless Network Using Interference-Aware Channel Segregation Based Dynamic Channel Assignment
11:40 SVD Based Wideband Spectrum Sensing and Carrier Aggregation for LTE-Advanced Networks
Shaoyi Xu (Beijing Jiaotong University, P.R. China); Kyung Sup Kwak (Inha University, Korea); Ramesh Rao (University of California at San Diego, USA)

12:00 Uplink Interference Mitigation for "Dead Zone" Problem in Closed Access Femtocell Networks
Weilong Ren (University of Science and Technology of China, P.R. China); Sihai Zhang (University of Science and Technology of China, P.R. China); Wuyang Zhou (University of Science and Technology of China, P.R. China)

12:20 Dynamic Spectrum Leasing Strategies for Coordinated Cognitive Radio Networks with Delay-Tolerant Traffic
Mario A. Ramírez-Reyna (CINVESTAV-IPN, Mexico); Felipe A. Cruz-Pérez (Cinvestav-IPN, Mexico); Mario E. Rivero-Angeles (Instituto Politecnico Nacional & CIC-IPN, Mexico); Genaro Hernandez-Valdez (UAM-A, Mexico)

MWN4: Cognitive radio networks 1
Room: New York
Chair: Yonghong Zeng (Institute for Infocomm Research, Singapore)

11:00 Operating Characteristics of Underlay Cognitive Relay Networks
Ankit Kaushik (Karlsruhe Institute of Technology, Germany); Ralph Tanbourgi (Karlsruhe Institute of Technology (KIT), Germany); Friedrich K. Jondral (Karlsruhe Institute of Technology, Germany)

11:20 Distributed Spectrum Trading in Multiple-Seller Cognitive Radio Networks
Li-Chuan Tseng (MediaTek Inc., Taiwan); Feng-Tsun Chien (National Chiao Tung University, Taiwan); Ronald Y. Chang (Academia Sinica, Taiwan); Wei-Ho Chung (Academia Sinica, Taiwan)

11:40 Combinatorial Auction based Routing in Multi-Channel Cognitive Radio Networks
Enas Khairullah (University of Central Florida, USA); Mainak Chatterjee (University of Central Florida, USA)

12:00 An Efficient Spectrum Sensing Algorithm for Cognitive Radio Based on Finite Random Matrix
Fuhui Zhou (Xidian University, P.R. China); Zan Li (Xidian University, P.R. China); Jiangbo Si (Xidian, P.R. China); Lei Guan (Xidian University, P.R. China)

12:20 Robust Energy Detection for Cognitive Radio
Yonghong Zeng (Institute for Infocomm Research, Singapore); Meng Wah Chia (Institute for Infocomm Research, Singapore)

MAC01: Cognitive Radio MAC - 1
Room: Pan American Room

11:00 Spectrum Sharing for Cognitive Two-Way Relaying: Superposition Coding Versus Time Division
Yong Li (Beijing University of Posts and Telecommunications, P.R. China); Tingting Wang (Beijing University of Posts and Telecommunications, P.R. China); Xiang Zhang (Beijing University of Posts and Telecommunications, P.R. China); Mugen Peng (Beijing University of posts & Telecommunications, P.R. China); Wenbo Wang (Beijing University of Posts and Telecommunications, P.R. China)
11:20 On the Stable Throughput of Cooperative Cognitive Radio Networks with Finite Relaying Buffer
Adel M. Elmahdy (Nile University, Egypt); Amr El-Keyi (Nile University, Egypt); Tamer ElBatt (Faculty of Engineering, Cairo University & WINC, Nile University, Egypt); Karim G Seddik (American University in Cairo & Alexandria University, Egypt)

11:40 Spectrum map aided multi-channel multi-hop routing in distributed cognitive radio networks
Saptarshi Debroy (University of Central Florida, USA); Mainak Chatterjee (University of Central Florida, USA)

12:00 Cooperative Cognitive Relaying Under Primary and Secondary Quality of Service Satisfaction
Ahmed El Shafie (Wireless Intelligent Networks Center (WINC), Nile University, Egypt); Tamer Khattab (Qatar University, Qatar)

12:20 Performance evaluation of primary-secondary reliable resource-management in vehicular networks
Nicola Cordeschi ("Sapienza" University of Rome, Italy); Danilo Amendola (Sapienza University of Rome, Italy); Mohammad Shojaifar (Sapienza University of Rome & Sapienza University of Rome, Italy); Enzo Baccarelli (Sapienza University of Rome, Italy)

PHY03: Power Efficient Communications
Room: South American A
Chair: Alkan Soysal (Bahcesehir University, Turkey)

11:00 Digital Predistortion with automatic determination of the Crest Factor Reduction gain, Principle and Experimental Validation
Amadou Tidiane Mbaye (Signal Processing and Telecommunications ESIEE-Paris, France); Geneviève B. Baudoin (ESIEE, France)

11:20 Minimizing the Energy per Bit for Pilot-Assisted Data Transmission over Quantized Channels
Qing Bai (Technische Universität München, Germany); Ulrich Mittmann (Technische Universität München, Germany); Amine Mezghani (TU Munich, Germany); Josef A. Nossek (TU Munich, Germany)

11:40 Standards-Compliant Energy-Saving Schemes for Downlink LTE/LTE-Advanced Networks
Zecai Shao (China Mobile Research Institute, P.R. China); Kun Guo (Xidian University, P.R. China); Min Sheng (Xidian University, P.R. China); Sen Bian (China Mobile Research Institute, P.R. China); Yan Zhang (Xidian University, P.R. China); Jinwei He (China Mobile Research Institute, P.R. China); Yuzhou Li (Xidian University, P.R. China); Chih-Lin I (China Mobile Research Institute, P.R. China)

12:00 High-Fidelity Energy-Efficient Machine-to-Machine Communication
Chih-Hua Chang (Academia Sinica, Taiwan); Ronald Y. Chang (Academia Sinica, Taiwan); Hung-Yun Hsieh (National Taiwan University, Taiwan)

12:20 Power Control Optimization for Tone Reservation based PAPR reduction algorithms
Ralph Mounzer (INSA-Rennes, France); Youssef Nasser (American University of Beirut, Lebanon); Matthieu Crussière (IETR - Electronics and Telecommunications Research Institute of Rennes (IETR) & INSA - National Institute of Applied Sciences, France); Jean-François Hélard (IETR, France)

MWN1: Ad hoc and body area networks
Room: Statler A
Chair: Hafiz Yasar Lateef (Qatar University, Qatar)

11:00 Enhanced Associativity-Based Multicast Routing Protocol in CR Mobile Ad hoc
Networks
Yan Sun (Queen Mary University of London, United Kingdom); Fenyu Jiang (Queen Mary University of London, P.R. China); Tao Liang (Queen Mary University of London, P.R. China); Chris Phillips (Queen Mary University of London, United Kingdom)

11:20 A Network Cost Function for Clustered Ad Hoc Networks: Application to Group-Based Systems
Raphaël Massin (Thales Communications & Security, France); Christophe J. Le Martret (Thales Communications & Security & Signal Processing and Multimedia Dept., France); Philippe Ciblat (Telecom ParisTech, France)

11:40 Throughput Capacity of Two-Hop Relay MANETs under Finite Buffers
Jia Liu (Xidian University, P.R. China); Min Sheng (Xidian University, P.R. China); Yang Xu (Xidian University, P.R. China); Hongguang Sun (Xidian University, P.R. China); Xijun Wang (Xidian University, P.R. China); Xiaohong Jiang (Future University-Hakodate, Japan)

12:00 Rethinking the Achievable Throughput Formulation of Cognitive Radio Ad Hoc Networks
Hongyu Ma (Beijing University of Posts and Telecommunications, P.R. China); Kai Niu (Beijing University of Posts and Telecommunications, P.R. China); Weiling Wu (Beijing University of Posts and Telecommunications, P.R. China)

12:20 On-body and Off-body Transmit Power Control in IEEE 802.15.6 Scheduled Access Networks
Fabio Di Franco (Università degli Studi di Palermo, Italy); Yu Ge (Institute for Infocomm Research, Singapore); Ilenia Tinnirello (University of Palermo, Italy)

MWN2: Wireless sensor networks 1

Room: Statler B

11:00 Simulation of Network-Level Performance for Bluetooth Low Energy
Konstantin Mikhaylov (University of Oulu, Finland)

11:20 Accelerated Connection Establishment (ACE) Mechanism for Bluetooth Low Energy
Konstantin Mikhaylov (University of Oulu, Finland)

11:40 On-Demand Energy Replenishment for Sensor Networks via Wireless Energy Transfer
Wenzheng Xu (Sun Yat-Sen University, The Australian National University, P.R. China); Weifa Liang (The Australian National University, Australia); Xiaojiang Ren (The Australian National University, Australia); XiaoLa Lin (Sun Yat-Sen University, P.R. China)

12:00 Exploiting Mobility for Quality-Maximized Data Collection in Energy Harvesting Sensor Networks
Xiaojiang Ren (The Australian National University, Australia); Weifa Liang (The Australian National University, Australia)

12:20 Preventing Alarm Storms in WSNs Anomaly Detection Applications
Alexandre Mouradian (Université de Lyon, France); Xuan Linh Nguyen (CITI, INSA Lyon, France); Isabelle Augé-Blum (CITI, INSA Lyon, France)

14:00 - 15:40
PHY08: Millimeter Wave Communication
Room: California Room
Chair: Tuncer Baykas (Tohoku University, Japan)

14:00 Design Criteria on a mmWave-based Small Cell with Directional Antennas
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<th>Time</th>
<th>Title</th>
<th>Authors</th>
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<tr>
<td>14:20</td>
<td><strong>System Level Modeling and Performance of an Outdoor mmWave Local Area Access System</strong></td>
<td>Taehoon Kim (Korea Advanced Institute of Science and Technology, Korea); Inkyu Bang (Korea Advanced Institute of Science and Technology, Korea); Dan Keun Sung (Korea Advanced Institute of Science and Technology, Korea)</td>
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<td>14:40</td>
<td><strong>Reliable RF Beamforming for Millimeter Wave MIMO-OFDM Systems</strong></td>
<td>Timothy A. Thomas (Nokia Solutions and Networks, USA); Frederick W. Vook (Nokia Solutions and Networks, USA)</td>
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<td>15:00</td>
<td><strong>Low Complexity Transceivers in Multiuser Millimeter-Wave Beamspace-MIMO Systems</strong></td>
<td>Yahia R. Ramadan (Faculty of Engineering, Cairo University, Egypt); Ahmed S. Ibrahim (InterDigital Communications Inc., USA); Mohamed Khairy (Elec. and Comm. Dept., Faculty of Eng., Cairo Univ, Egypt)</td>
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<td>15:20</td>
<td><strong>Multiuser Hybrid Beamforming for Max-Min SINR Problem under 60 GHz Wireless Channel</strong></td>
<td>Pierluigi Vito Amadori (University College of London, United Kingdom); Christos Masouros (University College London, United Kingdom)</td>
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**PHY05: Physical Layer Security II**

Room: Federal A  
Chair: Saeideh Parsaei Fard (McGill University, Canada)

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<tr>
<td>14:00</td>
<td><strong>Full-Duplex Relay with Jamming Protocol for Improving Physical-Layer Security</strong></td>
<td>Saeideh Parsaei Fard (McGill University, Canada); Tho Le-Ngoc (McGill University, Canada)</td>
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<td>14:20</td>
<td><strong>Reciprocity-Diversity Trade-off in Quantization for Secret Key Generation</strong></td>
<td>Iulia Tunaru (CEA-Leti Minatec, France); Benoit Denis (CEA-Leti Minatec, France); Bernard Uguen (University of Rennes I, France)</td>
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<td>14:40</td>
<td><strong>User Cooperation Analysis under Eavesdropping Attack: A Game Theory Perspective</strong></td>
<td>Hao Niu (The University of Tokyo, Japan); Li Sun (Xi'an Jiaotong University, P.R. China); Masaki Ito (The University of Tokyo, Japan); Kaoru Sezaki (University of Tokyo, Japan)</td>
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<td>15:00</td>
<td><strong>Secrecy Outage in Correlated Nakagami-m Fading Channels</strong></td>
<td>Weigang Liu (The University of Edinburgh, United Kingdom); Satyanarayana Vuppala (Jacobs University, Germany); Giuseppe Abreu (Jacobs University Bremen, Germany); Tharmalingam Ratnarajah (The University of Edinburgh, United Kingdom)</td>
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<td>15:20</td>
<td><strong>Energy Efficiency in Fading Relay Channels under Secrecy and QoS Constraints</strong></td>
<td>Mustafa Ozmen (Syracuse University, USA); Chuang Ye (Syracuse University, USA); M. Cenk Gursoy (Syracuse University, USA); Senem Velipasalar (Syracuse University, USA)</td>
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**PHY06: Channel Modelling and Simulation II**

Room: Federal B  
Chair: Michal Mackowiak (INOV-INESC / IST - University of Lisbon, Portugal)

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<th>Time</th>
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<tr>
<td>14:00</td>
<td><strong>Semi-Deterministic Modeling of Diffuse Scattering Component Based on Propagation Graph Theory</strong></td>
<td>Li Tian (Tongji University &amp; University of Bologna, P.R. China); Vittorio Degli-Esposti (University of Bologna, Italy); Enrico M. Vitucci (University of Bologna, Italy); Xuefeng</td>
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MWN7: Future wireless networks 1

Room: Massachusetts

14:00 An integrated approach for future mobile network architecture
Zainab Zaidi (King's College London, United Kingdom); Vasilis Friderikos (King's College London, United Kingdom); Muhammad Ali Imran (University of Surrey, United Kingdom)

14:20 Radio Network Energy Performance of Massive MIMO Beamforming Systems
Pål Frenger (Ericsson Research, Ericsson AB, Sweden); Magnus Olsson (Ericsson Research, Sweden); Erik Eriksson (Ericsson AB, Sweden)

14:40 Flow processing-aware Controller Placement in Wireless DenseNets
Sébastien Auroux (University of Paderborn, Germany); Holger Karl (University of Paderborn, Germany)

15:00 A Clean Slate Radio Network Designed for Maximum Energy Performance
Pål Frenger (Ericsson Research, Ericsson AB, Sweden); Magnus Olsson (Ericsson Research, Sweden); Erik Eriksson (Ericsson AB, Sweden)

15:20 Energy-Efficient User Relaying Scheme in Metropolitan mmWave Mobile Broadband System
JoonSan Kim (Korea Advanced Institute of Science and Technology, Korea); Seonghwa Yun (Korea Advanced Institute of Science and Technology, Korea); Seung Hyun Jeon (KAIST, Korea); Ae-Soon Park (ETRI, Korea); Jun Kyun Choi (KAIST, Korea)

SAB01: Streaming

Room: New York
Chair: Yukitoshi Sanada (Keio University, Japan)

14:00 Impact of End-user Playout Buffer Dynamics on HTTP Progressive Video QoE in Wireless Networks
Fange Yu (Zhejiang University, P.R. China); Huifang Chen (Zhejiang University, P.R. China); Lei Xie (Zhejiang University, P.R. China); Jie Li (University of Tsukuba, Japan)

14:20 Optimizing Playback Delay for Multiuser Video Streaming
Mehmet Ozfatura (Sabancı University, Turkey); Ozgur Ercetin (Sabanci University, Turkey); Hazer Inaltekin (Antalya International University, Turkey)

14:40 **A fuzzy controller for rate adaptation in MPEG-DASH clients**
Dimitrios J. Vergados (Technological Educational Institute of Western Macedonia, Greece); Angelos Michalas (Technological Education Institute of Western Macedonia, Greece); Angeliki Sgora (University of Piraeus & VTT Technical Research Centre of Finland, Greece); Dimitrios D. Vergados (University of Piraeus, Greece)

15:00 **Energy Consumption Anatomy of Live Video Streaming from a Smartphone**
Swaminathan Vasanth Rajaraman (Aalto University, School of Science, Finland); Matti Siekkinen (Aalto University, Finland); Mohammad Hoque (University of Helsinki, Finland)

15:20 **Representative Service Based Quality of Experience Modeling for Instant Messaging Service**
Xiaofeng Xin (Zhejiang University, P.R. China); Wei Wang (Zhejiang University, P.R. China); Aiping Huang (Zhejiang University, P.R. China); Hangguan Shan (Zhejiang University, P.R. China)

MAC02: Energy-efficient MAC and Resource Management - 1

Room: Pan American Room

14:00 **Energy-Aware User Scheduling for Downlink Multiuser-MIMO Systems**
Javier Rubio (Universitat Politècnica de Catalunya, Spain); Antonio Pascual-Iserte (Universitat Politècnica de Catalunya, Spain)

14:20 **Joint Discontinuous Transmission and Power Control for High Energy Efficiency in Heterogeneous Small Cell Networks**
Aolin Cheng (Beijing University of Posts and Telecommunications, P.R. China); Hao Jin (Beijing University of Posts and Telecommunications & Wireless Signal Processing and Network Laboratory, P.R. China); Jian Li (Beijing University of Posts and Telecommunications, P.R. China); Yuling Yu (Beijing University of Posts and Telecommunications, P.R. China); Mugen Peng (Beijing University of posts & Telecommunications, P.R. China)

14:40 **Energy-Efficient Cell Selection and Resource Allocation in LTE-A Heterogeneous Networks**
Jui-Hung Chu (National Chiao Tung University, Taiwan); Kai-Ten Feng (National Chiao Tung University, Taiwan); Tain-Sao Chang (National Chiao Tung University, Taiwan)

15:00 **Energy-efficient utility-based resource allocation in OFDMA systems**
Haina Ye (Beijing Jiaotong University, P.R. China); Zhenhui Tan (Beijing JiaoTong University, Beijing, P.R. China)

15:20 **Attenuators Enable Inversely Proportional Transmission Power and Carrier Sense Threshold Setting in WLANs**
Daichi Okuhara (Kyoto University, Japan); Fumiya Shiotani (Kyoto University, Japan); Koji Yamamoto (Kyoto University, Japan); Takayuki Nishio (Kyoto University, Japan); Masahiro Morikura (Kyoto University, Japan); Riichi Kudo (NTT Corporation, Japan); Koichi Ishihara (NTT Corporation, Japan)

PHY07: Multi-Antenna Signal Processing I

Room: South American A

14:00 **Linear Precoder Based on Minimum Euclidean Distance for Multicast Channels**
Zhiyong Chen (University of Science and Technology of China, P.R. China); Xiaodong Xu (University of Science and Technology of China, P.R. China); Yufeng Zhao (University of Science and Technology of China, P.R. China)

14:20 **Low-Complexity Detectors for Spatially-Modulated MIMO Systems**
Wen-Rong Wu (National Chiao Tung University, Taiwan); Chun-Tao Lin (National Chiao
14:40 Antenna splitting in a distributed antenna system for a multiuser MIMO transmission
Yuki Nakanishi (Hokkaido University, Japan); Toshihiko Nishimura (Hokkaido University, Japan); Takeo Ohgane (Hokkaido University, Japan); Yasutaka Ogawa (Hokkaido University, Japan); Yusuke Ohwatari (NTT DOCOMO, INC., Japan); Yoshihisa Kishiyama (NTT DOCOMO, INC., Japan)

15:00 Min-Max MSE Transceiver with Switched Preprocessing for MIMO Interference Channels
Ming-Min Zhao (Zhejiang University, P.R. China); Yunlong Cai (Zhejiang University, P.R. China); Benoit Champagne (McGill University, Canada); Minjian Zhao (Zhejiang University, P.R. China)

15:20 Adaptive Channel Regularization for Multiuser Multiantenna Downlink
S. Morteza Razavi (The University of Edinburgh, United Kingdom); Tharmalingam Ratnarajah (The University of Edinburgh, United Kingdom)

MWN5: LTE/LTE-A 1

Room: Statler A
Chair: Christian Ibars (Intel Corporation, USA)

14:00 Performance Analysis of LTE and Wi-Fi in Unlicensed Band Using Stochastic Geometry
Abhijeet Bhorkar (INTEL Corporation, USA); Christian Ibars (Intel Corporation, USA); Pingping Zong (Intel Corporation, USA)

14:20 A novel traffic generation framework for LTE network evolution study
Ziqi Zhang (Beijing Jiaotong University, P.R. China); ZhuYan Zhao (Nokia Siemens Networks, P.R. China); Hao Guan (Nokia Siemens Networks, P.R. China); Daniela Laselva (Nokia Siemens Networks, Denmark); Dong Ik Park (Nokia Solutions and Networks, Korea); Kyung Min Hwang (LG Uplus of Korea Republic, Korea); Dae Hee Kim (LG Uplus, Korea); Zhenhui Tan (Beijing JiaoTong University, Beijing, P.R. China)

14:40 Data Mining Framework for Random Access Failure Detection in LTE Networks
Sergey Chernov (University of Jyväskylä, Finland); Fedor Chernogorov (Magister Solutions Ltd. & University of Jyvaskyla, Finland); Dmitry Petrov (Magister Solutions Ltd. & University of Jyväskylä, Finland); Tapani Ristaniemi (University of Jyväskylä, Finland)

15:00 Joint Component Carrier and Antenna Allocation for Heterogeneous Network in LTE-A System
Yi-Hsiu Lee (National Chiao Tung University, Taiwan); Chih-min Yu (Chung Hua University, Taiwan); Kai-Ten Feng (National Chiao Tung University, Taiwan); Jia-Shi Lin (National Chiao Tung University, Taiwan)

15:20 Interference Mitigation in Two-Tier LTE Networks: Does Power Control Pay Off for Femtocells?
Andra M. Voicu (RWTH Aachen University, Germany); Ljiljana Simić (RWTH Aachen University, Germany); Marina Petrova (RWTH Aachen University, Germany)

MWN6: Congestion, load and admission control

Room: Statler B
Chair: Konstantin Mikhaylov (University of Oulu, Finland)

14:00 Modeling and Analysis of Uplink-Downlink Relationship in Heterogeneous Cellular Network
Hao Xu (Beijing University of Posts and Telecommunications, P.R. China); Chang Yongyu (Beijing University of Posts & Telecommunications, P.R. China); Tengxiao Sun (Beijing University of Posts and Telecommunications, P.R. China); Daixu Zheng (Beijing University of Posts and Telecommunication, P.R. China); Dacheng Yang (Beijing...
14:20 IEEE 802.11 Wi-Fi Access Point Localization with Angular Signal Strength Information
Andreas Achtzehn (RWTH Aachen University, Germany); Martin Gritzan (RWTH Aachen University, Germany); Marina Petrova (RWTH Aachen University, Germany); Petri Mähönen (RWTH Aachen University, Germany)

14:40 Partial Mobile Data Offloading with Load Balancing in Heterogeneous Cellular Networks Using Software-Defined Networking
Xiaoyu Duan (Western University, Canada); Xianbin Wang (The University of Western Ontario, Canada); Auon Muhammad Akhtar (University of Western Ontario, Canada)

15:00 Bandwidth Estimation in Mobile Networks by Busy Period Detection
Zoltán Móczár (Budapest University of Technology and Economics, Hungary); Sándor Molnár (Budapest University of Technology and Economics, Hungary)

15:20 Q-Learning-based Prediction of Channel Quality after Handover in Mobile Networks
Zdenek Becvar (Czech Technical University in Prague, Czech Republic); Pavel Mach (Czech Technical University in Prague, Czech Republic); Emilio Calvanese Strinati (CEA-LETI, France)

16:10 - 17:50
PHY12: Millimeter Wave Channel Models

Room: California Room
Chair: Tuncer Baykas (Tohoku University, Japan)

16:10 28-GHz Indoor Channel Measurements and Analysis of Propagation Characteristics
Mingyang Lei (Beijing University of Posts and Telecommunications, P.R. China); Jianhua Zhang (Beijing University of Posts and Telecommunications, P.R. China); Tian Lei (Beijing University of Posts and Telecommunications & Wireless Technology Innovation Institute, P.R. China); Detao Du (Beijing University of Posts and Telecommunications, P.R. China)

16:30 Performance measurement of broadband simple decoding in short-range MIMO
Ken Hiraga (NTT, Japan); Kazumitsu Sakamoto (NTT, Japan); Tomohiro Seki (NTT, Japan); Toshimitsu Tsubaki (NTT Network Innovation Laboratories, Japan); Hideki Toshinaga (NTT, Japan); Tadao Nakagawa (NTT Corporation, Japan)

16:50 Scattering Effect Based on Measurements of Reflection Coefficients at 60 GHz in an Underground Mine Gallery
Shah Ahsanuzzaman Md Tariq (Université de Montréal-École Polytechnique de Montréal & Poly-Grames Research Center, Canada); Charles Despins (Prompt, Canada); Sofiene Affes (INRS-EMT, Canada); Chahe Nerguizian (Ecole Polytechnique, Canada)

17:10 A Novel Dual-Slope mm-Wave Channel Model Based on 3D Ray-Tracing in Urban Environments
Youngbin Chang (Samsung Electronics Co., Ltd, Korea); Sangkyu Baek (Samsung Electronics, Co., Ltd, Korea); Sooyoung Hur (Samsung Electronics & HQ Korea, Korea); Youngjoong Mok (Samsung Electronics, Korea); Youngju Lee (Samsung Electronics, Korea)

17:30 Omnidirectional Path Loss Models in New York City at 28 GHz and 73 GHz
George R MacCartney, Jr. (NYU WIRELESS & NYU-Poly, USA); Mathew Samimi (NYU WIRELESS, USA); Theodore Rappaport (New York University & NYU WIRELESS, USA)

PHY09: Physical Layer Network Coding
16:10 Inter-Symbol-Interference Cancelation in Time-domain Physical-Layer Network Coding with fractional delay
Yixin Li (The University of Reading, United Kingdom); Fu-Chun Zheng (The University of Reading, United Kingdom); Yanxiang Jiang (Southeast University, P.R. China)

16:30 A practical implementation of Computation Codes for computing sums
Aitziber Saez (CEIT, Spain); Xabier Insausti (CEIT, Spain); Pedro M. Crespo (CEIT and TECNUN (University of Navarra), Spain)

16:50 Beamforming and Relay Selection Schemes for Multi-Antenna Two-Way Relaying Systems with Physical Network Coding
Youngil Jeon (Electronics and Telecommunications Research Institute, Korea); Sung-Hyun Moon (ETRI, Korea); Gosan Noh (Electronics and Telecommunications Research Institute, Korea); Youn Ok Park (Electronics and Telecommunications Research Institute, Korea)

17:10 Synchronization Analysis of Physical-layer Network Coding in LTE System
Xiaoli Wang (Docomo Beijing Communications Lab, P.R. China); Qun Zhao (DoCoMo Beijing Labs, P.R. China)

17:30 LDPC Coded Soft Forwarding with Network Coding for the Two-Way Relay Channel
Dushantha N. K. Jayakody (University College Dublin, Ireland); Jun Li (University of Sydney, Australia); Mark F. Flanagan (University College Dublin, Ireland)

PHY10: Positioning, Localisation, and Tracking Techniques

Room: Federal B
Chair: Anup Kumar Paul (KDDI R&D Laboratories Inc. & KDDI, Japan)

16:10 Studying and Mitigating the Impact of GPS Localization Error on Radio Environment Map Construction
Alexandros Palaios (RWTH Aachen University, Germany); Sathishkumar Jagadeesan (RWTH Aachen University, Germany); Nikos Perpinias (RWTH Aachen University, Germany); Janne Riihijärvi (RWTH Aachen University, Germany); Petri Mähönen (RWTH Aachen University, Germany)

16:30 Cooperative RF Pattern Matching Positioning for LTE Cellular Systems
Reza Monir Vaghefi (Virginia Tech, USA); Michael Buehrer (Virginia Tech, USA)

16:50 Traffic Hotspot localization in 3G and 4G wireless networks using OMC metrics
Aymen Jaziri (Telecom SudParis & Orange, France); Ridha Nasri (Orange Labs, France); Tijani Chahed (Telecom SudParis, France)

17:10 Cooperative Localization of Mobile Nodes in NLOS
Siamak Yousefi (McGill University, Canada); Xiao-Wen Chang (McGill University, Canada); Benoit Champagne (McGill University, Canada)

17:30 Measurement and Analysis of NLOS Identification Metrics for WLAN Systems
Ebtesam Almazrouei (Khalifa University, UAE); Nayef Alsindii (Etisalat-British Telecommunications Innovation Centre (EBTIC), UAE); Saleh Al-Araj (Khalifa University of Science, Technology and Research, UAE); Nazar Ali (Khalifa University, UAE); Zdenek Chaloupka (Etisalat British Telecom Innovation Centre, UAE); James Aweya (Etisalat British Telecom Innovation Center/Khalifa University, UAE)

16:10 - 18:10

MWN10: Cooperative communications

Room: Massachusetts
16:10 **User-Cooperation Scheme based on Clustering for Energy Efficiency in Cellular Networks with D2D Communication**
ChulHee Choi (Korea Advanced Institute of Science and Technology, Korea); Sungjin Park (KAIST, Korea); Dong-Ho Cho (Korea Advanced Institute of Science and Technology, Korea)

16:30 **Joint Data Assignment and Beamforming for Backhaul Limited Caching Networks**
Xi Peng (The Hong Kong University of Science and Technology, Hong Kong); Juei Chin Shen (Hong Kong University of Science and Technology, Hong Kong); Jun Zhang (The Hong Kong University of Science and Technology, Hong Kong); Khaled B. Letaief (The Hong Kong University of Science and Technology, Hong Kong)

16:50 **Interference and Throughput Analysis of Uplink User-Assisted Relaying in Cellular Networks**
Hussain Elkotby (Tufts University, USA); Mai Vu (Tufts University, USA)

17:10 **Radio Access Virtualization: Cell follows User**
Keyvan Zarifi (Huawei Technologies, Canada); Hadi Baligh (Huawei Canada, Canada); Jianglei Ma (Huawei, Canada); Mohamed Rashad Salem (Huawei Technologies Co. LTD., Canada); Amine Maaref (Huawei Technologies Canada, Canada)

17:30 **A Decentralized Inter-Cell Interference Coordination Scheme using Multi-Objective Optimization**
Haitham S. Hamza (Cairo University, Egypt); Mohamed Kassem (Cairo University, Egypt); Amany Magdy (Cairo University, Egypt); Khaled Elsayed (Cairo University, Egypt)

17:50 **A resource allocation mechanism for enhancing spectral efficiency and throughput of multi-link D2D communications**
Hamidreza Bagheri (University of Oulu, Finland); Marcos D Katz (University of Oulu, Finland)

16:10 - 17:50
**SAB02: Localization**

Room: New York
Chair: Huan-Bang Li (National Institute of Information and Communications Technology, Japan)

16:10 **Semi-Supervised Logo-based Indoor Localization Using Smartphone Cameras**
Hamed Sadeghi (University of Toronto, Canada); Shahrokh Valaee (University of Toronto, Canada); Shahram Shirani (McMaster University, Canada)

16:30 **Robust TOA based Localization for Wireless Sensor Networks with Anchor Position Uncertainties**
Zemene Walle Mekonnen (ETH Zurich, Switzerland); Armin Wittneben (ETH Zurich, Switzerland)

16:50 **Localization Calibration Using Illuminance Sensor for Pedestrian Dead Reckoning with Smartphones**
Yohei Murakami (Keio University, Japan); Tomoaki Ohtsuki (Keio University, Japan)

17:10 **Geometry-Improved Location Estimation Algorithm for LTE-A Wireless Networks**
Chien-Hua Chen (National Chiao Tung University, Taiwan); Kai-Ten Feng (National Chiao Tung University, Taiwan)

17:30 **Height Dependent TOA Ranging Error Model for Near Ground Localization Applications**
Jie He (University of Science and Technology Beijing, P.R. China); Yishuang Geng (Worcester Polytechnic Institute, MA, USA); Cheng Xu (University of Science & Technology Beijing, P.R. China); Zhishuai Han (University of Science and Technology Beijing, P.R. China); Duan Shihong (University of Science and Technology Beijing, P.R. China)
**MAC03: Scheduling**

Room: Pan American Room

**16:10 Coordinated Scheduling and Beamforming Scheme for LTE-A HetNet Exploiting Direction of Arrival**
Giulio Bartoli (University of Florence, Italy); Romano Fantacci (University of Florence, Italy); Dania Marabissi (University of Florence, Italy); Marco Pucci (University of Florence, Italy)

**16:30 Transmission scheduling and congestion control for multi-hop D2D underlaying cellular networks**
Junchao Li (National Mobile Communications Research Laboratory, Southeast University, P.R. China); Weiwei Xia (National Mobile Communications Research Laboratory, Southeast University, P.R. China); Song Xing (California State University, Los Angeles, USA); Lianfeng Shen (National Mobile Communications Research Laboratory, Southeast University, P.R. China)

**16:50 Channel- and Buffer-Aware Scheduling and Resource Allocation Algorithm for LTE-A Uplink**
Obada Al-Khatib (The University of Sydney, Australia); Wibowo Hardjawana (The University of Sydney, Australia); Branka Vucetic (The University of Sydney, Australia)

**17:10 MAC-LTE Scheduler Modeling and Performance Evaluation in LTE Network**
Naila Bouchemal (UVSQ, France); Nora Izri (University of Versailles St Quentin, France); Samir Tohme (University of Versailles, France)

**17:30 Robust Proportional Fair Scheduling with Imperfect CSI and Fixed Outage Probability**
Richard Fritzzsche (Technische Universität Dresden, Germany); Peter Rost (NEC Laboratories Europe, Germany); Gerhard Fettweis (Technische Universität Dresden, Germany)

**PHY11: Multi-Antenna Signal Processing II**

Room: South American A

**16:10 An Improved Detection Algorithm Based on Lattice Reduction for MIMO System**
Yunchao Song (Nanjing University of Posts and Telecommunications, P.R. China); Chen Liu (Nanjing University of Posts and Telecommunications, P.R. China); Feng Lu (Nanjing University of Posts and Telecommunications, P.R. China); Hua-An Zhao (Kumamoto University, Japan)

**16:30 Real-time root-MUSIC DOA estimation via a parallel polynomial rooting method**
Mrudula V Athi (Bose Corporation & Michigan Technological University, USA); Seyed (Reza) Zekavat (Michigan Technological University, USA)

**16:50 Efficient Adaptive Vertical Downtilt Schemes in LTE-Advanced Networks**
Meilong Jiang (InterDigital Communications, LLC, USA); Mohsen Hosseinian (InterDigital Communications, LLC, USA); Moon-il Lee (InterDigital Communication, USA); Janet Stern-Berkowitz (InterDigital Communications, Inc., USA)

**17:10 Error Probability on the Orbital Angular Momentum Detection**
Abdullah Haskou (IETR UMR CNRS 6164, Université de Rennes1, France); Philippe Mary (INSA Rennes, IETR UMR CNRS, France); Maryline Hélard (INSA Rennes & IETR Institute of Electronics and Telecommunications of Rennes, France)

16:10 - 18:10

**MWN8: Green wireless networks**
### 16:10 Towards Energy Efficient Relay Placement and Load Balancing in Future Wireless Networks
Hafiz Yasar Lateef (Qatar University, Qatar); Carla-Fabiana Chiasserini (Politecnico di Torino, Italy); Tamer ElBatt (Faculty of Engineering, Cairo University & WINC, Nile University, Egypt); Amr Mohamed (Qatar University & Qatar University Wireless Innovations Center, Qatar); Mohsen Guizani (QU, USA)

### 16:30 Energy-Aware Configuration of Small Cell Networks
Bahar Partov (Hamilton Institute & Alcotel-Lucent Bell Labs, Ireland); Douglas Leith (Hamilton, Ireland); Rouzbeh Razavi (Bell labs, Alcotel-Lucent, Ireland)

### 16:50 Energy-Capacity Trade-off Bounds in a downlink typical cell
Jean-Marie Gorce (INSA-Lyon, France); Dimitrios Tsilimantos (INSA Lyon, France); Paul Ferrand (INSA-Lyon, France); H. Vincent Poor (Princeton University, USA)

### 17:10 Joint Relay Assignment and Adaptive Modulation for Energy-Efficient Cellular Networks
Islam Samy (Nile University, Egypt); Ahmed H. Zahran (Nile University, Egypt); Tamer ElBatt (Faculty of Engineering, Cairo University & WINC, Nile University, Egypt)

### 17:30 Energy-Efficient Sleep Strategy for Distributed MIMO Systems
Dongyan Huang (Beijing University of Posts and Telecommunications, P.R. China); Bo Wang (Beijing University of Posts and Telecommunications, P.R. China); Guixia Kang (Beijing University of Posts and Telecommunications, P.R. China); Hui Tian (Beijing university of posts and telecommunications, P.R. China); Congcong Li (Beijing University of Posts and Telecommunications, P.R. China)

### 17:50 Exploiting User Delay-Tolerance to Save Energy in Cellular Network: an Analytical Approach
Samantha Gamboa (Institut Mines-Telecom / Telecom Bretagne, France); Alexander Pelov (Institut Mines-Telecom / Telecom Bretagne, France); Patrick Maillé (Institut Mines-Telecom / Telecom Bretagne, France); Nicolas Montavont (Institut Mines Telecom / Telecom Bretagne, France)

### 16:10 - 17:50
**MWN9: Vehicular networks**

#### Room: Statler B

### 16:10 A bandwidth allocation strategy for train-to-ground communication networks
Yin Tian (Beijing Jiaotong University, P.R. China); Honghui Dong (Beijing Jiaotong University, P.R. China); Limin Jia (State Key Laboratory of Rail Traffic Control and Safety, P.R. China); Siyu Li (Peking University, P.R. China)

### 16:30 Connectivity at Crossroads
Marcelo G Almiron (UFMG, Brazil); Olga Goussevskaia (UFMG, Brazil); Alejandro C Frery (Universidade Federal de Alagoas, Brazil); Antonio A.F. Loureiro (Federal University of Minas Gerais, Brazil)

### 16:50 Fairness Kills Safety: A Comparative Study for Intersection Assistance Applications
Stefan Joerer (University of Innsbruck, Austria); Bastian Bloessl (University of Paderborn, Germany); Michele Segata (University of Innsbruck, Italy); Christoph Sommer (University of Paderborn, Germany); Renato Lo Cigno (University of Trento, Italy); Falko Dressler (University of Paderborn, Germany)

### 17:10 Cooperative Node Positioning In Vehicular Networks Using Inter-Node Distance Measurements
Peyman Hadi Mohammadabadi (University of Toronto, Canada); Shahrokh Valaee
**Utility-Based Forwarder Selection for Content Dissemination in Vehicular Networks**

Farouk Mezghani (Université de Toulouse, INP/ENSEEIHT, IRIT, France); Riadh Dhaou (Université de Toulouse, INP/ENSEEIHT, IRIT, France); Michele Nogueira (Federal University of Paraná, Brazil); André-Luc Beylot (IRIT Toulouse, France)

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**Thursday, September 4**

**08:50 - 09:40**

**P3: Plenary 3**

Room: Presidential Ballroom

09:40 - 10:30

**P4: Plenary 4**

Room: Presidential Ballroom

11:00 - 12:40

**PHY16: Antennas and Propagation**

Room: California Room
Chair: Rod Waterhouse (Pharad LLC, USA)

11:00 Virtual Satellite Communication Links of Incompatible Polarization via Wavefront Multiplexing Techniques
Donald Chang (Spatial Digital Systems, USA); Joe Lee (SDS, Inc., USA); Tzer-Hso Michael Lin (SDS, USA)

11:20 A Novel Beamforming Scheme in FD-MIMO Systems with Spatial Correlation
Bin Shao (Beijing University of Posts and Telecommunications, P.R. China); Zhang Yuyan (Beijing university of P&T, P.R. China); Minyao Xing (Beijing University of Posts and Telecommunications, P.R. China); Long Zhao (Beijing University of Posts and Telecommunications, P.R. China); Kan Zheng (Beijing University of Posts&Telecommunications, P.R. China)

11:40 Performance Variation in Electrical Balance Duplexers due to User-Interaction
Leo Laughlin (University of Bristol, United Kingdom); Mark Beach (University of Bristol, United Kingdom); Kevin A Morris (University of Bristol, United Kingdom); John Haine (U-blox, United Kingdom)

12:00 Efficient Printed Antenna for Body Wearable UWB Applications
Rod Waterhouse (Pharad LLC, USA); Dalma Novak (Pharad, USA)

12:20 2 by 2 MIMO System Using Single Leaky Coaxial Cable for Linear-cells
Yafei Hou (Nara Institute of Science and Technology, Japan); Satoshi Tsukamoto (ATR, Japan); Masayuki Ariyoshi (Advanced Telecommunications Research Institute International (ATR) & NEC Corporation, Japan); Kiyoshi Kobayashi (NTT Access Network Service Systems Laboratories, Japan); Minoru Okada (Nara Institute of Science and Technology, Japan)

**PHY13: Advanced Modulation Schemes**

Room: Federal A
Chair: Mohamed El-Tarhuni (American University of Sharjah, UAE)
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<th>Time</th>
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<th>Authors</th>
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<tr>
<td>11:00</td>
<td><strong>Non-orthogonal Waveform Transmission Technique with Convolutional Multiplexing Signalling</strong></td>
<td>Ying Wang (Institute of Information Engineering Chinese Academy of Sciences, P.R. China); Yongming Wang (Institute of Information Engineering Chinese Academy of Sciences, P.R. China); Weihua Zhou (Institute of Information Engineering Chinese Academy of Sciences, P.R. China); Xuanxuan Wang (Institute of Information Engineering Chinese Academy of Sciences, P.R. China); Daoben Li (Beijing University of posts and telecommunications, P.R. China)</td>
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<tr>
<td>11:20</td>
<td><strong>A New 64-QAM Class with Low OFDM PMEPR Bound</strong></td>
<td>Xian Liu (University of Arkansas at Little Rock, USA)</td>
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<td>11:40</td>
<td><strong>An Effective SINR Mapping Models for 256QAM in LTE-Advanced System</strong></td>
<td>Juwo Yang (Beijing University of Posts and Telecommunications (BUPT), P.R. China); Hui Zhao (Beijing University of Posts and Telecommunications, P.R. China); Wenbo Wang (Beijing University of Posts and Telecommunications, P.R. China); Chengcheng Zhang (Beijing University of Posts and Telecommunications, P.R. China)</td>
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<tr>
<td>12:00</td>
<td><strong>Ultrafast Pulsed THz Communication</strong></td>
<td>Farnoosh Moshir (Portland State University, USA); Suresh Singh (Portland State University, USA)</td>
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<td>12:20</td>
<td><strong>Adaptive Spatial Modulation for Spectrally-Efficient MIMO Spectrum Sharing Systems</strong></td>
<td>Zied Bouida (Concordia University, Canada); Ali Ghrayeb (Texas A&amp;M University at Qatar, Qatar); Khalid A. Qaraqe (Texas A&amp;M University at Qatar, USA)</td>
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**PHY14: Cooperative Communications I**

Room: Federal B  
Chair: Philippe Mary (INSA Rennes, IETR UMR CNRS, France)

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<tr>
<td>11:00</td>
<td><strong>Soft Forwarding Device Cooperation Strategies for 5G Radio Access Networks</strong></td>
<td>Yu Cao (Huawei Technologies Canada Co. Ltd., Canada); Amine Maaref (Huawei Technologies Canada, Canada)</td>
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<tr>
<td>11:20</td>
<td><strong>Auction Framework for Resource Allocation in AF-OFDMA Systems</strong></td>
<td>Hanan Al-Tous (United Arab Emirates University, UAE); Imad Barhumi (United Arab Emirates University, UAE)</td>
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<tr>
<td>11:40</td>
<td><strong>On MMSE and VBI Detection for TWRNs Over Unknown Non-Reciprocal Time-Frequency Dispersive Channels</strong></td>
<td>Ke Zhong (University of Electronic Science and Technology of China, P.R. China); Shaoqian Li (University of Electronic Science and Technology of China, P.R. China)</td>
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<tr>
<td>12:00</td>
<td><strong>Bipartite Network Based Multi-Cell Clustering Scheme in Randomly Located CoMP Systems</strong></td>
<td>Bo Li (Beijing University of Posts and Telecommunications, P.R. China); Tiankui Zhang (Beijing University of Posts and Telecommunications, P.R. China); Zhimin Zeng (Beijing University of Posts and Telecommunications, P.R. China)</td>
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<tr>
<td>12:20</td>
<td><strong>Performance Analysis of Cooperative Networks in Shadowed Fading with Co-Channel Interference</strong></td>
<td>Petros S. Bithas (Institute for Astronomy, Astrophysics, Space Applications and Remote Sensing, Greece); Athanasios A. Rontogiannis (National Observatory of Athens, Greece)</td>
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**MWN13: Mobile computing**

Room: Massachuettes

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<tr>
<td>11:00</td>
<td><strong>Architecture for Multi-users Multiplexing Radio Voice Transmission for Enhancing Voice Capacity over LTE in PMR Context</strong></td>
<td></td>
</tr>
</tbody>
</table>
11:20 Service Discovery in Mobile Social Networks
Michele Girolami (University of Pisa & ISTI-CNR, Italy); Stefano Chessa (University of Pisa, Italy); Stefano Basagni (Northeastern University, USA); Francesco Furfari (CNR-ISTI, Italy)

11:40 Seamless and transparent migration for TCP sessions
Raffaele Bolla (University of Genoa, Italy); Marco Chiappero (University of Genoa, Italy); Riccardo Rapuzzi (University of Genoa, Italy); Matteo Repetto (CNIT, Italy)

12:00 Small Cell Clustering for Efficient Distributed Cloud Computing
Jessica Oueis (CEA-LETI & University of Grenoble, France); Emilio Calvanese Strinati (CEA-LETI, France); Sergio Barbarossa (Sapienza University of Rome, Italy)

12:20 Path Selection Using Handover in Mobile Networks with Cloud-enabled Small Cells
Zdenek Becvar (Czech Technical University in Prague, Czech Republic); Jan Plachy (Czech Technical University in Prague, Czech Republic); Pavel Mach (Czech Technical University in Prague, Czech Republic)

MWN14: Cognitive radio networks 2
Room: New York
Chair: Jean-Marie Gorce (INSA-Lyon, France)

11:00 MIMO-based Achievable Rate on Cognitive Radio Network with Multiple Primary Users
Jing Zhai (Beijing University of Posts and Communications, P.R. China); Wenbo Xu (Beijing University of Posts and Telecommunications, P.R. China); Kai Niu (Beijing University of Posts and Telecommunications, P.R. China); Jiaru Lin (Beijing University of Posts and Telecommunications, P.R. China)

11:20 Transmission Energy Consumption Analysis of a Multi-Channel Cognitive Radio Network Applying Stochastic Network Calculus
Yi Zhang (Beijing University of Posts and Telecommunications, P.R. China); Yuehong Gao (Beijing University of Posts and Telecommunications, P.R. China); Bimeng Gong (Beijing University of Posts and Telecommunications, P.R. China); Xin Zhang (Beijing University of Posts and Telecommunications, P.R. China); Dacheng Yang (Beijing University of Posts and Telecommunications, P.R. China)

11:40 Percolation Condition for Interference-limited Cognitive Radio Networks
Osama A.H. Al-Tameemi (University of Central Florida, USA); Ayad Al-Rumaithi (UCF, USA); Mainak Chatterjee (University of Central Florida, USA)

12:00 Trust based channel preference in cognitive radio networks under collaborative selfish attacks
Shameek Bhattacharjee (University of Central Florida, USA); Mainak Chatterjee (University of Central Florida, USA)

12:20 Adaptive Cooperative Transmission and Spectrum Sharing in MIMO-CCRN
Zhao Li (Xidian University, P.R. China); Xinyi Kong (Xidian University, P.R. China); Jiandong Li (Xidian University, P.R. China)

MAC04: Cognitive Radio MAC - 2
Room: Pan American Room

11:00 Adaptive Packet Aggregation Scheduling Scheme for CRMANET
Yan Sun (Queen Mary University of London, United Kingdom); Dan Liu (Queen Mary
11:20 Throughput Maximization via Adjusting Packet Size of a Buffered Cognitive Radio User
Ahmed El Shafie (Wireless Intelligent Networks Center (WINC), Nile University, Egypt); Tamer Khattab (Qatar University, Qatar)

11:40 Probabilistic Band-Splitting for a Buffered Cooperative Cognitive Terminal
Ahmed El Shafie (Wireless Intelligent Networks Center (WINC), Nile University, Egypt); Ahmed Sultan (Alexandria University, Egypt); Tamer Khattab (Qatar University, Qatar)

12:00 Distributed Channel Selection in Multilink MISO Networks: Stochastic Learning under Time-Varying Channel States
Li-Chuan Tseng (MediaTek Inc., Taiwan); Feng-Tsun Chien (National Chiao Tung University, Taiwan); Ronald Y. Chang (Academia Sinica, Taiwan)

12:20 Network Controlled Frequency Channel and Bandwidth Allocation Scheme for IEEE 802.11a/n/ac Wireless LANs: RATOP
B. A. Hirantha Sithira Abeysekera (NTT Corporation, Japan); Munehiro Matsui (NTT Communications Corporation, Japan); Yusuke Asai (NTT, Japan); Masato Mizoguchi (NTT, Japan)

PHY15: Single- and Multi-User MIMO
Room: South American A
Chair: Cenk M. Yetis (Mevlana University, Turkey)

11:00 Performance of Turbo Codes in Overloaded MIMO-OFDM Systems using Joint Decoding
Ilmiawan Shubhi (Keio University, Japan); Yukitoshi Sanada (Keio University, Japan)

11:20 QoS Guaranteed Schedule for Large-Scale MIMO Systems with Pilot Reuse
Xin Xiong (Southeast University, P.R. China); Bin Jiang (Southeast University & National Mobile Communications Research Lab., P.R. China); Xiqi Gao (Southeast University, P.R. China); Xiaohu You (National Mobile communication Research Lab., Southeast University, P.R. China)

11:40 A Peak Power Aware Linear-Precoding Scheme for MIMO-SDM Systems
Satoshi Takabatake (Kyushu University, Japan); Osamu Muta (Kyushu University, Japan); Hiroshi Furukawa (Kyushu University, Japan)

12:00 Distributed Antenna Selection Algorithms for Improving BER in MIMO Interference Channels
Ahmed Ali (University of Texas at Dallas, USA); Cenk M. Yetis (Mevlana University, Turkey); Murat Torlak (The University of Texas at Dallas, USA)

12:20 MU-MIMO Downlink Scheduling Based On Users' Correlation and Fairness
Zhao Li (Xidian University, P.R. China); Peifeng Li (Xidian University, P.R. China); Kang G. Shin (University of Michigan, USA)

MWN11: Hetnets 1
Room: Statler A
Chair: Yi Shi (Huawei Technologies, P.R. China)

11:00 Traffic Load Balancing Based on User Data Rate Estimation in Heterogeneous Cellular Networks
Fei Liu (RWTH Aachen University & Institute for Networked Systems, Germany); Marina Petrova (RWTH Aachen University, Germany)

11:20 Network-Assisted Multihoming for Emerging Heterogeneous Wireless Access Scenarios
Shreyasee Mukherjee (WINLAB, Rutgers University, USA); Akash Baid (WINLAB,
11:40 **On the Optimal Assisted Rate Allocation in N-Tier Multi-RAT Heterogeneous Networks**
Dmitri Moltchanov (Tampere University of Technology, Finland); Mikhail Gerasimenko (Tampere University of Technology, Finland); Qiao Wang (Tampere University of Technology, Finland); Sergey Andreev (Tampere University of Technology, Finland); Yevgeni Koucheryavy (Tampere University of Technology, Finland)

12:00 **Performance Evaluation of an Energy Efficient RRM strategy in Heterogeneous Cellular Networks**
Pierpaolo Piunti (University of Florence - CNIT, Italy); Marco Dolfi (University of Florence, Italy); Simone Morosi (University of Florence - CNIT, Italy); Sara Jayousi (CNIT University of Florence, Italy); Enrico Del Re (University of Florence, Italy)

12:20 **Parameter Optimization Using Local Search for CRE and eICIC in Heterogeneous Network**
Kurumi Yamamoto (Keio University, Japan); Tomoaki Ohtsuki (Keio University, Japan)

**MWN12: Wireless sensor networks 2**

Room: Statler B

11:00 **Performance Bounds of Multi-Relay Deployment of Wireless Data Networks**
Bader Alkandari (Worcester Polytechnic Institute, USA); Kaveh Pahlavan (WPI, USA)

11:20 **Reduced Complexity on Mobile Sensor Deployment and Coverage Hole Healing by Using Adaptive Threshold Distance in Hybrid Wireless Sensor Networks**
Aye Mon Htun (Keio University & SASASE Lab, Japan); Maung Sann Maw (Keio University & Chindwin College, Myanmar); Iwao Sasase (Keio University, Japan)

11:40 **A Clock Skew Addressing Scheme for Internet of Things**
Mohamed Kassem (Cairo University, Egypt); Haitham S. Hamza (Cairo University, Egypt); Imane A. Saroit (Cairo University, Egypt)

12:00 **Minimal Patching Barrier Healing Strategy for Barrier Coverage in Hybrid WSNs**
Huan Xie (Beijing University of Posts and Telecommunications, P.R. China); MengLong Li (Beijing University of Posts and Telecommunications, P.R. China); Weidong Wang (Beijing University of Posts and Telecommunications, P.R. China); Chaowei Wang (Beijing University of Posts and Telecommunications & Schoole of Electronics Engineering, P.R. China); Xiuhua Li (China Institute of Communications, P.R. China); Yinghai Zhang (Beijing University of Posts and Telecommunications, P.R. China)

12:20 **An efficient learning technique to predict link quality in WSN**
Dana Marinca (UVSQ, France); Pascale Minet (INRIA, France); Nesrine Ben Hassine (INRIA, France)

**14:00 - 15:40**

**PHY20: Beamforming I**

Room: California Room

14:00 **Combining eICIC with Coordinated Beamforming in Downlink Heterogeneous Networks**
Danish Aziz (Alcatel-Lucent Bell Labs, Germany); Paolo Baracca (Alcatel-Lucent & Bell Labs, Germany)

14:20 **The GMD-based Precoding and Antenna Selection Schemes for CoMP Joint Processing**
Ching-Heng Yeh (National Central University, Taiwan); Pei-Yun Tsai (National Central University, Taiwan)
### PHY17: Channel Estimation

**Room:** Federal A  
**Chair:** Benoit Escrig (Université de Toulouse & IRIT, France)

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<th>Time</th>
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<th>Speakers</th>
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<tr>
<td>14:00</td>
<td>Joint Time-Frequency Synchronization and Channel Estimation for FBMC</td>
<td>Yonghong Zeng (Institute for Infocomm Research, Singapore); Meng Wah Chia (Institute for Infocomm Research, Singapore)</td>
</tr>
<tr>
<td>14:20</td>
<td>NEXT: New Enhanced Available Bandwidth Measurement Technique, Algorithm and Evaluation</td>
<td>Anup Kumar Paul (KDDI R&amp;D Laboratories Inc. &amp; KDDI, Japan); Atsuo Tachibana (KDDI R&amp;D Laboratories, Japan); Teruyuki Hasegawa (KDDI R&amp;D Laboratories Inc., Japan)</td>
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<tr>
<td>14:40</td>
<td>Efficient transform-domain channel estimation technique for large-scale multiple antenna systems</td>
<td>Qingchuan Zhang (Alcatel-Lucent Shanghai, P.R. China); Xudong Zhu (Alcatel-Lucent Shanghai Bell, P.R. China); Yubo Yang (Alcatel Shanghai Bell, P.R. China); Peng Shang (Alcatel-Lucent Bell Labs &amp; Alcatel-Lucent, P.R. China); Jiaqiu Liu (Alcatel-Lucent Shanghai Bell, P.R. China)</td>
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<tr>
<td>15:00</td>
<td>Interference-Free Proactive Channel Gain Estimation in Cognitive Radio</td>
<td>Mengsheng Rui (University of Electronic Science and Technology of China, P.R. China); Lin Zhang (University of Electronic Science and Technology of China, P.R. China); Guodong Zhao (University of Electronic Science and Technology of China (UESTC), P.R. China); Gang Wu (University of Electronic Science and Technology of China, P.R. China); Shaoqian Li (University of Electronic Science and Technology of China, P.R. China)</td>
</tr>
<tr>
<td>15:20</td>
<td>Low Complexity Adaptive Channel Estimation and QR Decomposition for an LTE-A Downlink</td>
<td>Rakesh Gangarajah (Lund University, Sweden); Peter Nilsson (Lund University, Sweden); Ove Edfors (Lund University, Sweden); Liang Liu (Lund University, Sweden)</td>
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### PHY18: Cooperative Communications II

**Room:** Federal B  
**Chair:** Gayan Amarasuriya (University of Alberta, Canada)

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<th>Time</th>
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<tr>
<td>14:00</td>
<td>A Multilevel Soft Quantize-and-Forward Scheme for Multiple Access Relay Systems</td>
<td>Dushantha N. K. Jayakody (University College Dublin, Ireland); Jun Li (University of Sydney, Australia); Bin Chen (University College Dublin, Ireland); Mark F. Flanagan (University College Dublin, Ireland)</td>
</tr>
<tr>
<td>14:20</td>
<td>RF Energy Powered Feedback-Aided Cooperation</td>
<td>Hiroki Kawabata (The University of Electro-Communications, Japan); Koji Ishibashi (The University of Electro-Communications, Japan)</td>
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<tr>
<td>14:40</td>
<td>Distributed Relay Selection Protocols for Simultaneous Wireless Information</td>
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and Power Transfer
Jing Yan (Xi’an Jiaotong University, P.R. China); Chao Zhang (Xi’an Jiaotong University, P.R. China); Zhenzhen Gao (Xi’an Jiaotong University, P.R. China)

15:00 Outage Probability of Multihop MIMO Networks with Transmit Antenna Selection (TAS) in a Poisson Field of Interferes
Amr AbdelNabi (Texas A&U University at Qatar, Qatar); Fawaz Al-Qahtani (Texas A&M University at Qatar & Eduncation City, Qatar); Mohammad Shaqfeh (Texas A&M University at Qatar, Qatar); Hussein Alnuweiri (Texas A&M University, Qatar)

MWN17: Future wireless networks 2
Room: Massachuettes
Chair: Yuehong Gao (Beijing University of Posts and Telecommunications, P.R. China)

14:00 Two-tier Spatial Modeling of Base Stations in Cellular Networks
Yifan Zhou (Zhejiang University, P.R. China); Zhifeng Zhao (Zhejiang University, P.R. China); Qianlan Ying (Zhejiang University, P.R. China); Rongpeng Li (Zhejiang University, P.R. China); Xuan Zhou (Zhejiang University, P.R. China); Honggang Zhang (Université Européenne de Bretagne (UEB) and Supelec & Zhejiang University, France)

14:20 Design and Optimization Aspects of Wireless Backhaul Operated in the Millimeter Wave Spectrum
Jacek Gora (Nokia Siemens Networks, Poland); Krystian Safjan (Nokia Siemens Networks, Poland)

14:40 Refined Evaluation of Wireless Network Evolution Approaches
Jean-Pierre Charles (Orange Labs, France); Magnus Frodigh (Ericsson AB, Sweden); Sebastien Jeux (Orange Labs, France); Ahmed Saadani (Orange Labs, France); Mohamed Sayed Hassan (Orange Labs/Alten, France); Alan Stidwell (Orange, United Kingdom); Johan Söder (Ericsson, Sweden); Bogdan Timus (Ericsson, Sweden)

15:00 Receiver Based Distributed Relay Selection Scheme for 60-GHz Networks
Waheed Ur Rehman (Beijing University of Posts and Telecommunications, P.R. China); Tabinda Salam (Beijing University of Posts and Telecommunications, Beijing, P.R. China); Xiaofeng Tao (Beijing University of Posts and Telecommunications, P.R. China)

15:20 Load-Aware Modeling for Uplink Cellular Networks in a Multi-Channel Environment
Ahmad AlAmmouri (King Abdullah University of Science and Technology, Saudi Arabia); Hesham ElSawy (King Abdullah University of Science and Technology (KAUST), Saudi Arabia); Mohamed-Slim Alouini (King Abdullah University of Science and Technology (KAUST), Saudi Arabia)

SAB03: Communication Systems and Applications
Room: New York
Chair: Luis M. Correia (IST - University of Lisbon & INOV-INESC, Portugal)

14:00 Data Transmission using Transmitter Side Channel Estimation in Wireless Power Transfer System
Kazuki Sugeno (Keio University, Japan); Yukitoshi Sanada (Keio University, Japan); Mamiko Inamori (Tokai University, Japan)

14:20 Emerging Satellite Communication Links of Incompatible Polarization via Wavefront Multiplexing Techniques
Donald Chang (Spatial Digital Systems, USA); Joe Lee (SDS, Inc., USA); Tzer-Hso Michael Lin (SDS, USA)

14:40 A Practical and Cost-Effective Cyclic Pulse Synchronization System using IEEE 802.11 Wireless LAN
Yuji Tohzaka (Toshiba Corporation, Japan); Takafumi Sakamoto (Toshiba Corporation, Japan); Noritaka Deguchi (Toshiba Corporation, Japan); Yusuke Doi (Corporate R&D
MAC05: Energy-efficient MAC and Resource Management - 2

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<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>14:00</td>
<td>Achievable Energy Efficiency Resource Allocation in OFDM System with Mixed Traffic</td>
<td>Ningyu Chen (Beijing University of Posts and Telecommunications, P.R. China); Pengxiang Hu (Beijing University of Posts and Telecommunications, P.R. China); Xiaofeng Tao (Beijing University of Posts and Telecommunications, P.R. China); Qimei Cui (Beijing University of Posts and Telecommunications, P.R. China); Yujing Shang (Beijing University of Posts and Telecommunications, P.R. China)</td>
</tr>
<tr>
<td>14:20</td>
<td>Optimised Delay-Energy Aware Duty Cycle Control for IEEE 802.15.4 with Cumulative Acknowledgement</td>
<td>Yun Li (Queen Mary University of London, United Kingdom); Kok Keong Chai (Queen Mary University of London, United Kingdom); Yue Chen (Queen Mary University of London, United Kingdom); Jonathan Loo (Middlesex University, United Kingdom)</td>
</tr>
<tr>
<td>14:40</td>
<td>Energy efficient user grouping algorithm for multi-user MIMO systems</td>
<td>Junhyuk Kim (KAIST, Korea); Nah-Oak Song (Korea Advanced Institute of Science and Technology (KAIST), Korea); June-Koo Kevin Rhee (KAIST, Korea)</td>
</tr>
<tr>
<td>15:00</td>
<td>Power Allocation Strategy Against Jamming Attacks in Gaussian Fading Multichannel</td>
<td>Fu-Te Hsu (National Taiwan University, Taiwan); Hsuan-Jung Su (National Taiwan University, Taiwan)</td>
</tr>
<tr>
<td>15:20</td>
<td>Maximum Throughput of a Cooperative Energy Harvesting Cognitive Radio User</td>
<td>Ahmed El Shafie (Wireless Intelligent Networks Center (WINC), Nile University, Egypt); Tamer Khattab (Qatar University, Qatar)</td>
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PHY19: Massive MIMO I

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<tr>
<td>14:00</td>
<td>Practical Differential Quantization for Spatially and Temporally Correlated Massive MISO Channels</td>
<td>Yanliang Sun (Beijing University of Posts and Telecommunications, P.R. China); Jianhua Zhang (Beijing University of Posts and Telecommunications, P.R. China); Ping Zhang (Wireless Technology Innovation Lab, Beijing University of Posts and Telecommunications, P.R. China); Linyun Wu (Beijing University of Posts and Telecommunications, P.R. China); Yuning Wang (BUPT, P.R. China)</td>
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<tr>
<td>14:20</td>
<td>Coordinated Pilot Reuse for Multi-Cell Massive MIMO Transmission</td>
<td>Tengteng Lian (Southeast University, P.R. China); Li You (Southeast University, P.R. China); Wen Zhong (Southeast University, P.R. China); Xiqi Gao (Southeast University, P.R. China)</td>
</tr>
<tr>
<td>14:40</td>
<td>On the effect of Antenna Correlation and Coupling on Energy-Efficiency of Massive MIMO Systems</td>
<td>Sudip Biswas (University of Edinburgh, United Kingdom); Christos Masouros</td>
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</table>
15:00 **Product Codebook Feedback for Massive MIMO with Cross-Polarized 2D Antenna Arrays**  
Frederick W. Vook (Nokia Solutions and Networks, USA); Eugene Visotsky (Nokia Siemens Networks, USA); Timothy A. Thomas (Nokia Solutions and Networks, USA); Bishwarup Mondal (Nokia Siemens Networks, USA)

15:20 **Parallel and Distributed Algorithm for Partial Coordination in Massive MIMO Networks**  
Qian Wan (Beijing University of Posts and Telecommunications, P.R. China); Kai Niu (Beijing University of Posts and Telecommunications, P.R. China); Jiaru Lin (Beijing University of Posts and Telecommunications, P.R. China)

**MWN15: LTE/LTE-A 2**

Room: Statler A

14:00 **Channel-Aware Optimised Traffic Shifting in LTE-Advanced Relay Networks**  
Lexi Xu (China Unicom Network Technology Research Institute & Queen Mary University of London, P.R. China); Yuting Luan (Shenyang Railway Survey Design Consulting Company, P.R. China); Kun Chao (China Unicom Network Technology Research Institute, P.R. China); Xinzhou Cheng (China Unicom Network Technology Research Institute, P.R. China); Heng Zhang (China Unicom Network Technology Research Institute, P.R. China); John Schormans (Queen Mary, University of London, United Kingdom)

14:20 **Two-Way TCP Performance Issues and Solutions in Asymmetric LTE Radio Access**  
Péter Szilágyi (Nokia Solutions and Networks, Hungary); Csaba Vulkán (Nokia Siemens Networks, Hungary)

14:40 **A Dynamic LTE Uplink Packet Scheduler for Machine-to-Machine Communication**  
Adyson Magalhães Maia (Federal University of Ceará, Brazil); Dario Vieira (EFREI, France); Miguel Franklin de Castro (Federal University of Ceará, Brazil)

15:00 **Handover Friendly TCP Proxy Integrated in the LTE eNodeB**  
Péter Szilágyi (Nokia Solutions and Networks, Hungary); Zoltán Vincze (Nokia Solutions and Networks, Hungary); Csaba Vulkán (Nokia Siemens Networks, Hungary)

15:20 **On the Impact of LTE-U on Wi-Fi Performance**  
Alireza Babaei (CableLabs, USA); Jennifer Andreoli-Fang (CableLabs, USA); Belal Hamzeh (CableLabs, USA)

**MWN16: Self-organizing networks**

Room: Statler B

14:00 **A SON Solution for Sleeping Cell Detection using Low-Dimensional Embedding of MDT Measurements**  
Ahmed Zoha (QMIC, Qatar); Arsalan Saeed (University of Surrey, United Kingdom); Ali Imran (University of Oklahoma, USA); Muhammad Ali Imran (University of Surrey, United Kingdom); Adnan Abu-Dayya (QMIC, Qatar)

14:20 **Self-Organizing Aerial Mesh Networks for Emergency Communication**  
Marco Di Felice (University of Bologna, Italy); Angelo Trotta (University of Bologna, Italy); Luca Bedogni (University of Bologna & Department of Computer Science, Italy); Kaushik Chowdhury (Northeastern University, USA); Luciano Bononi (University of Bologna, Italy)

14:40 **Self-Organizing Channel Assignment for High Density 802.11 WLANs**  
Xiaowei Wang (McGill University, Canada); Mahsa Derakhshani (McGill University,
15:00 **Coordinating SON Instances: Reinforcement Learning with Distributed Value Function**
Ovidiu Iacoboaia (Orange Labs and Telecom ParisTech, France); Berna Sayrac (Orange Labs, France); Sana Ben Jemaa (Orange Labs, France); Pascal Bianchi (Telecom ParisTech - LTCI, France)

**Pairwise Nash and Refereeing for Resource Allocation in Self-Organizing Networks**
Mathew Pradeep Goonewardena (University of Quebec & École de Technologie Supérieure, Canada); Wessam Ajib (Université du Québec à Montréal, Canada); Halima Elbiaze (University of Quebec at Montreal, Canada)

16:10 - 17:50

**PHY24: Beamforming II**

**Room:** California Room
**Chair:** Alkan Soysal (Bahcesehir University, Turkey)

16:10 **On OFDM-MRT with Nonlinear Power Amplifier**
Ilia Iofedov (Ben Gurion University of the Negev, Israel); Dov Wulich (Ben Gurion University, Israel)

16:30 **Multiuser Hybrid Phase-only Analog/Digital Beamforming with Genetic Algorithm**
Cuiyun Hong (Beijing University of Posts and Telecommunications, P.R. China); Zaixue Wei (Beijing University of Posts and Telecommunications, P.R. China); Jian Geng (Beijing University of Posts and Telecommunications, P.R. China); Dacheng Yang (Beijing University of Posts and Telecommunications, P.R. China)

16:50 **Distance-Aware Multi-Carrier Indoor Terahertz Communications with Antenna Array Selection**
Cen Lin (Georgia Institute of Technology, USA); Geoffrey Li (Georgia Tech, USA)

17:10 **Joint Beamforming for Multicell Multi-group Multicast with Per-cell Power Constraints**
Guan-Wen Hsu (National Taiwan University, Taiwan); Hai-Han Wang (National Taiwan University, Taiwan); Hsuan-Jung Su (National Taiwan University, Taiwan); Phone Lin (National Taiwan University, Taiwan)

17:30 **Worst-Case Robust MIMO Relay Precoding in Cognitive Two-Way Relay Networks**
Hongjian Huang (Beijing University of Posts and Telecommunications, P.R. China); Xin Deng (Beijing University of Posts and Telecommunication, P.R. China)

**PHY21: Channel Capacity**

**Room:** Federal A

16:10 **Performance Analysis of Water-Filling for Outdated CSI Multiple Hops MIMO Relay Systems**
Pham Thanh Hiep (Yokohama National University, Japan); Kohno Ryuji (Yokohama National University, Japan)

16:30 **On Uniform Quantization for Successive Cancellation Decoder of Polar Codes**
Zhengming Shi (Beijing University of Posts and Telecommunications, P.R. China); Kai Niu (Beijing University of Posts and Telecommunications, P.R. China)

16:50 **Asymptotic Performance Analysis of Channel Inversion under CSI Imperfections**
S. Morteza Razavi (The University of Edinburgh, United Kingdom); Tharmalingam
**PHY22: Cooperative Communications III**

Room: Federal B  
Chair: Benoit Escrig (Université de Toulouse & IRIT, France)

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<th>Time</th>
<th>Title</th>
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<tbody>
<tr>
<td>16:10</td>
<td>Two-way Relay Underwater Acoustic Communication Channels with Distributed Space-Time Block Coding</td>
<td>Saed Daoud (Concordia University, Canada); Ali Ghrayeb (Texas A&amp;M University at Qatar, Qatar); Bahattin Karakaya (Istanbul University, Turkey)</td>
</tr>
<tr>
<td>16:30</td>
<td>Clustering-based Time-Domain Inter-Cell Interference Coordination in Dense Small Cell Networks</td>
<td>Yaguang Wu (Beijing University of Posts and Telecommunications, P.R. China); Hailun Xia (Beijing University of Posts and Telecommunications, P.R. China); Yao Lu (China Unicom, P.R. China); Chunyan Feng (Beijing University of Posts and Telecommunications, P.R. China); Tiankui Zhang (Beijing University of Posts and Telecommunications, P.R. China); Rui Han (Beijing University of Posts and Telecommunications, P.R. China); Hao Zhou (Beijing University of Posts and Telecommunications, P.R. China)</td>
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<tr>
<td>16:50</td>
<td>Dynamic Load Balancing with Handover in Hybrid LiFi and WiFi Networks</td>
<td>Yunlu Wang (The University of Edinburgh, P.R. China); Stefan Videv (University of Edinburgh, United Kingdom); Harald Haas (The University of Edinburgh, United Kingdom)</td>
</tr>
<tr>
<td>17:10</td>
<td>Matching Coalitions for Interference Classification in Large Heterogeneous Networks</td>
<td>Matthieu De Mari (Supelec, France); Emilio Calvanese Strinati (CEA-LETI, France); Mérouane Debbah (Supelec, France)</td>
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**MWN20: Multi-hop networks**

Room: Massachusetts

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<tr>
<td>16:10</td>
<td>Performance Study for Off-Grid Self-Backhauled Small Cells in Dense Informal Settlements</td>
<td>Parth Amin (Aalto University, Finland); Nadew Kibret (Aalto University, Finland); Edward Mutafungwa (Aalto University, Finland); Beneyam Haile (Aalto University, Finland); Jyri Hämäläinen (Aalto University, Finland); Jukka K. Nurminen (Aalto University, Finland)</td>
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<tr>
<td>16:30</td>
<td>Interference Suppression Schemes by Linear Combining for Wireless Multiuser Relay Communications</td>
<td>Ahmet Ihsan Canbolat (Tokyo Institute of Technology, Japan); Mamadu Bah (Tokyo Institute of Technology, Japan); Kazuhiko Fukawa (Tokyo Institute of Technology, Japan); Hiroshi Suzuki (Tokyo Institute of Technology, Japan)</td>
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<tr>
<td>16:50</td>
<td>Reliability Modeling and Prediction of Wireless Multi-Hop Networks with Correlated Shadowing</td>
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SAB04: Networking Applications

Room: New York
Chair: Angelos Michalas (Technological Education Institute of Western Macedonia, Greece)

16:10 Multi-Connectivity Strategy for Agile Service Delivery with Low Power Discovery
Taeyoung Lee (Samsung Electronics, Co., Ltd, Korea); Kwanghun Han (Samsung Electronics, Korea); Myounghwan Lee (Samsung Electronics, Korea); Seonghee Park (Samsung Electronics, Korea); Chil-Youl Hacky Yang (Samsung Electronics, Korea)

16:30 An Efficient Replica Placement Heuristic for Community WMNs
Zakwan Al-Arnaout (Victoria University of Wellington, New Zealand); Qiang Fu (Victoria University of Wellington, New Zealand); Marcus Frean (Victoria University of Wellington, New Zealand)

16:50 A Framework for P2P Networking of Smart Devices Using Wi-Fi Direct
Ahmed Amer Shahin (University of Maryland Baltimore County & Zagazig University, USA); Mohamed Younis (University of Maryland Baltimore County, USA)

17:10 Efficient semantic-based IoT service discovery mechanism for dynamic environments
Sameh Ben Fredj (Telecom ParisTech/Alcatel-Lucent Bell Labs, France); Mathieu Boussard (Alcatel-Lucent Bell Labs France, France); Daniel Kofman (Telecom ParisTech & RAD Data Communications, France); Ludovic Noirie (Alcatel-Lucent Bell Labs France, France)

17:30 Service-oriented cross-layer management for software-defined cellular networks
Xuan Zhou (Zhejiang University, P.R. China); Zhifeng Zhao (Zhejiang University, P.R. China); Rongpeng Li (Zhejiang University, P.R. China); Yifan Zhou (Zhejiang University, P.R. China); Honggang Zhang (Université Européenne de Bretagne (UEB) and Supelec & Zhejiang University, France)

MAC06: Cross-layer Design

Room: Pan American Room

16:10 Sum-Rate Maximization in OFDMA Downlink Systems: A Joint Subchannels, Power, and MCS Allocation Approach
Sen Bian (China Mobile Research Institute, P.R. China); Jiongjiong Song (Xidian University, P.R. China); Min Sheng (Xidian University, P.R. China); Zecai Shao (China Mobile Research Institute, P.R. China); Jinwei He (China Mobile Research Institute, P.R. China); Yan Zhang (Xidian University, P.R. China); Yuzhou Li (Xidian University, P.R. China); Chih-Lin I (China Mobile Research Institute, P.R. China)

16:30 Novel eICIC scheme for HetNets exploiting jointly the Frequency, Power and Time dimensions
Katerina Koutlia (Universitat Politècnica de Catalunya (UPC), Spain); Jordi Pérez-Romero (Universitat Politècnica de Catalunya (UPC), Spain); Ramon Agustí (Universitat Politècnica de Catalunya, Spain)
16:50 Joint User Scheduling and Interference Alignment Beamforming in Heterogeneous Wireless Networks
Yu-Fan Chen (National Chiao Tung University, Taiwan); Li-Chun Wang (National Chiao Tung University, Taiwan); Wern-Ho Sheen (National Chung Cheng University, Taiwan)

17:10 Network Lifetime Maximization Based Joint Resource Optimization for Wireless Body Area Networks
Rong Chai (Chongqing University of Posts and Telecommunications, P.R. China); Panpan Wang (Chongqing University of Posts and Telecommunications, P.R. China); Zheng Huang (Chongqing University of Posts and Telecommunications, P.R. China); Cui Su (Chongqing University of posts and Telecommunications, P.R. China)

PHY23: Massive MIMO II

16:10 Detection of Active Eavesdroppers in Massive MIMO
Dževdan Kapetanović (Luxembourg University, Luxemburg); Azzam Al-Nahari (Ibb, Sweden); Aleksandar Stojanovic (University of Luxembourg, Luxemburg); Fredrik Rusek (Lund University, Sweden)

16:30 Massive MIMO Cooperative Communications for Wireless Sensor Networks: Throughput and Energy Efficiency Analysis
Nadjib Achir (Universite Paris 13, Sorbonne Paris Cite, France); Mérouane Debbah (Supelec, France); Paul Muhlethaler (INRIA, France)

16:50 Multi-Way Amplify-and-Forward Relay Networks With Massive MIMO
Gayan Amarasuriya (Princeton University, Canada); H. Vincent Poor (Princeton University, USA)

17:10 Uplink Performance of Conventional and Massive MIMO Cellular Systems with Delayed CSIT
Anastasios Papazafeiropoulos (Imperial College London, United Kingdom); Hien Quoc Ngo (Linkoping University, Sweden); Michail Matthaiou (Queen's University Belfast, United Kingdom); Tharmalingam Ratnarajah (The University of Edinburgh, United Kingdom)

17:30 Joint Fixed Beamforming and Eigenmode Precoding for Super High Bit Rate Massive MIMO Systems Using Higher Frequency Bands
Tatsunori Obara (NTT DOCOMO, INC., Japan); Satoshi Suyama (NTT DOCOMO, INC., Japan); Jiyun Shen (NTT DOCOMO, INC., Japan); Yukihiko Okumura (NTT DOCOMO, INC., Japan)

MWN18: Small cells

16:10 A Flexible Backhaul Architecture for Small Cell Networks
Yi Shi (Huawei Technologies, P.R. China); Xin Xiong (Huawei Technologies Co., Ltd., P.R. China); Mingchao Li (Huawei Technologies, P.R. China); Guanglin Han (Huawei Technologies, P.R. China); Xiaodai Dong (University of Victoria, Canada)

16:30 How to Upgrade Wireless Networks: Small Cells or Massive MIMO?
Xiangxiang Xu (Tsinghua University, P.R. China); Xiujun Zhang (Tsinghua University, P.R. China); Walid Saad (Virginia Tech, USA); Yifei Zhao (Tsinghua University, P.R. China); Shidong Zhou (Tsinghua University, Canada)
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<th>Time</th>
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<th>Authors</th>
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<tbody>
<tr>
<td>16:50</td>
<td>How D2D Communication Influences Energy Efficiency of Small Cell Network with Sleep Scheme</td>
<td>Chengcheng Yang (Beijing University of Posts and Telecommunications, P.R. China); Jiang Han (Beijing University of Posts and Telecommunications, P.R. China); Xiaodong Xu (Beijing University of Posts and Telecommunications &amp; Wireless Technology Innovation Institute, P.R. China)</td>
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<td>17:10</td>
<td>Distributed Transmit Power Management for Small Cell Networks</td>
<td>Nur Ilyana Anwar Apandi (University of Sydney, Australia, Australia); Wibowo Hardjawana (The University of Sydney, Australia); Branka Vucetic (University of Sydney, Australia)</td>
</tr>
<tr>
<td>17:30</td>
<td>Resource Allocation in Cellular Networks with Moving Small Cells with Probabilistic Mobility</td>
<td>Sobia Jangsher (The University of Hong Kong, Hong Kong); Victor O. K. Li (University of Hong Kong, P.R. China)</td>
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16:10 - 18:10

**MWN19: Location dependent networks and location management**

Room: Statler B  
Chair: Zdenek Becvar (Czech Technical University in Prague, Czech Republic)

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<th>Time</th>
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<th>Authors</th>
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<tr>
<td>16:10</td>
<td>A Distributed, Energy-Efficient and QoI-Aware Framework for In-Network Processing</td>
<td>Sepideh Nazemi Gelyan (Imperial College, United Kingdom); Kin K. Leung (Imperial College, United Kingdom); Ananthram Swami (Army Research Lab., USA)</td>
</tr>
<tr>
<td>16:30</td>
<td>Distributed Uplink Interference Coordination via Pricing in HSPA+ HetNet</td>
<td>Rongqian Qin (Beijing University of Posts and Telecommunications, P.R. China); Chang Yongyu (Beijing University of Posts &amp; Telecommunications, P.R. China); Daixu Zheng (Beijing University of Posts and Telecommunication, P.R. China); Chi Zhang (Beijing University of Posts and Telecommunications, P.R. China); Dacheng Yang (Beijing University of Posts and Telecommunications, P.R. China)</td>
</tr>
<tr>
<td>16:50</td>
<td>Research of Mobile Deployment and Sub-channel Distribution under Terrain Topology Impact</td>
<td>Xiaoxing Yu (TELECOM ParisTech, France); Philippe Martins (Telecom ParisTech, France); Thomas Courtat (Télécom ParisTech, France); Laurent Decreusefond (Telecom ParisTech &amp; CNRS LTCI, France); Jean-Marc Kelif (Orange Labs, France)</td>
</tr>
<tr>
<td>17:10</td>
<td>Comparison of POA and TOA Based Ranging Behavior for RFID Application</td>
<td>Yongtao Ma (Tianjin University, P.R. China); Kaveh Pahlavan (WPI, USA); Yishuang Geng (Worcester Polytechnic Institute, MA, USA)</td>
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<tr>
<td>17:30</td>
<td>Dual Handover Triggers to Improve QoE for Indoor and Outdoor Mobility</td>
<td>Takamichi Inoue (NEC Corporation, Japan); Yoshinori Watanabe (NEC, Japan); Takahiro Nobukiyo (NEC Corporation, Japan); Yasuhiko Matsunaga (NEC Corporation, Japan)</td>
</tr>
<tr>
<td>17:50</td>
<td>Downlink Coverage Performance of 2-Tier Closed Access Heterogeneous Cellular Networks</td>
<td>Aroba Khan (University of Sydney, Australia); Abbas Jamalipour (University of Sydney, Australia)</td>
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**Friday, September 5**

09:40 - 10:30

**P5: Plenary 5**
Room: Presidential Ballroom

**11:00 - 12:40**

**PHY28: Interference Mitigation I**

**Room: California Room**
Chair: Mohamed El-Tarhuni (American University of Sharjah, UAE)

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<th>Time</th>
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<tr>
<td>11:00</td>
<td><strong>LLR-based Interference Suppression for the Physical Downlink Control Channel of LTE-A</strong></td>
<td>Alexei Davydov (Intel Corp., Russia); Gregory Morozov (Intel Corp., Russia)</td>
</tr>
<tr>
<td>11:20</td>
<td><strong>Throughput of Two-Tier Heterogeneous Wireless Networks with Interference Coordination</strong></td>
<td>Yi Luo (University of Edinburgh, United Kingdom); Tharmalingam Ratnarajah (The University of Edinburgh, United Kingdom)</td>
</tr>
<tr>
<td>11:40</td>
<td><strong>Digitally Assisted Adaptive Non-Linearity Suppression Scheme for RF front ends</strong></td>
<td>Rakesh Gangaarajah (Lund University, Sweden); Mohammed Abdulaziz (Lund University, Sweden); Liang Liu (Lund University, Sweden); Henrik Sjöland (Lund University, Sweden)</td>
</tr>
<tr>
<td>12:00</td>
<td><strong>Narrowband Interference Suppression in Long Term Evolution Systems</strong></td>
<td>João Paulo Miranda (CPqD, Brazil); Dick Melgarejo (CPqD, Brazil); Fabiano Mathilde (CPqD - Center of Research and Development in Telecommunications, Brazil); Ricardo Yoshimura (CPqD - Center of Research and Development in Telecommunications, Brazil); Felipe Augusto de Figueiredo (CPqD &amp; CPqD, Brazil); Juliano Joao Bazzo (CPqD - Telecommunications Research and Development Center &amp; UNICAMP - State University of Campinas, Brazil)</td>
</tr>
<tr>
<td>12:20</td>
<td><strong>Adaptive LS-based Beamformer Design for Multiuser MIMO Interference Channels</strong></td>
<td>S. Morteza Razavi (The University of Edinburgh, United Kingdom); Tharmalingam Ratnarajah (The University of Edinburgh, United Kingdom)</td>
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**PHY25: Cognitive and Green Radio I**

**Room: Federal A**
Chair: Shankar Prakriya (Indian Institute of Technology, Delhi, India)

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<th>Time</th>
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<tr>
<td>11:00</td>
<td><strong>Novel Spectrum Sensing Scheme in Cognitive Radio By Simultaneously Sensing/Transmitting At Full-Duplex Tx and BER Measurements At Rx</strong></td>
<td>Yingqi Lu (University of Calgary, Canada); Donglin Wang (New York Institute of Technology, USA); Michel Fattouche (University of Calgary, Canada)</td>
</tr>
<tr>
<td>11:20</td>
<td><strong>An Empirical Polarization Domain Channel Availability Model for Cognitive Radio</strong></td>
<td>Eleftherios Chatzianteoniu (University of Bedfordshire, United Kingdom); Ben Allen (University of Bedfordshire, United Kingdom); Vladan Velisavljević (University of Bedfordshire, United Kingdom)</td>
</tr>
<tr>
<td>11:40</td>
<td><strong>Outage Performance of Dynamic Spectrum Access Systems with Energy Harvesting Transmitters</strong></td>
<td>Komal Janghel (Indian Institute of Technology, Delhi, India); Shankar Prakriya (Indian Institute of Technology, Delhi, India)</td>
</tr>
<tr>
<td>12:00</td>
<td><strong>Resource Allocation for Multicarrier Cooperative Cognitive Radio Networks with Imperfect Channel State Information</strong></td>
<td>Jeroen Van Hecke (Ghent University, Belgium); Paolo Del Fiorentino (University of Pisa, Italy); Filippo Giannetti (University of Pisa, Italy); Vincenzo Lottici (University of Pisa, Italy); Luc Vandendorpe (University of Louvain, Belgium); Marc Moeneclaey (Ghent University, Belgium)</td>
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<td>Speakers</td>
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<td>12:20</td>
<td>Estimation of Centralized Spectrum Sensing Overhead for Cognitive Radio Networks</td>
<td>Pengda Huang (Southern Methodist University, USA); Dinesh Rajan (Southern Methodist University, USA)</td>
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**PHY26: PHY Performance Evaluation I**

Room: Federal B  
Chair: Young Jin Chun (Qatar University, Qatar)

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<th>Time</th>
<th>Session Title</th>
<th>Speakers</th>
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<tr>
<td>11:00</td>
<td>Performance Evaluation of Cognitive Multi-Relay Networks with Multi-Receiver Scheduling</td>
<td>Thi My Chinh Chu (Blekinge Institute of Technology, Sweden); Hans-Juergen Zepernick (Blekinge Institute of Technology, Sweden); Hoc Phan (University of Reading, United Kingdom)</td>
</tr>
<tr>
<td>11:20</td>
<td>Performance Evaluation of InterferenceCancellation using a Generalized-Array-Manifold Model</td>
<td>Nan Zhang (Tongji University, P.R. China); Xuefeng Yin (Tongji University, P.R. China); Li Tian (Tongji University &amp; University of Bologna, P.R. China); Weiming Duan (Huawei, P.R. China); Silvia Ruiz Boqué (UPC, Spain)</td>
</tr>
<tr>
<td>11:40</td>
<td>Efficient BER Simulation of Orthogonal Space-Time Block Codes in Nakagami-m Fading</td>
<td>Lennert Jacobs (Ghent University, Belgium); Marc Moeneclaey (Ghent University, Belgium)</td>
</tr>
<tr>
<td>12:00</td>
<td>Modeling and Analysis of HetNet Interference using Poisson Cluster Processes</td>
<td>Young Jin Chun (Qatar University, Qatar); Mazen Omar Hasna (Qatar University, Qatar); Ali Ghrayeb (Texas A&amp;M University at Qatar, Qatar)</td>
</tr>
<tr>
<td>12:20</td>
<td>An Upper Bound On BER in a Coded Two-Transmission Scheme with Same-size Arbitrary 2D Constellations</td>
<td>Mehmet Ilter (Carleton University, Canada); Halim Yanikomeroglu (Carleton University, Canada)</td>
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**MWN23: Coverage and network/resource management**

Room: Massachusetts  
Chair: Venkatasubramanian Venkatkumar (Nokia-Solutions and Networks, Poland)

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<th>Time</th>
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<th>Speakers</th>
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<tr>
<td>11:00</td>
<td>Three-dimensional Coverage Control of Common Control Signals for Cellular Networks</td>
<td>Cheng Wang (Zhejiang University, P.R. China); Aiping Huang (Zhejiang University, P.R. China); Dongdong Fan (China Mobile Group Zhejiang CO., LTD., P.R. China); Hangguan Shan (Zhejiang University, P.R. China); Zhouyun Wu (Technology Innovation Center, China Telecom, P.R. China); Hongcheng Zhuang (Huawei Technologies Co., Ltd, P.R. China)</td>
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<td>11:20</td>
<td>Coverage Mapping Using Spatial Interpolation With Field Measurements</td>
<td>Hajer Braham (Telecom Paris Tech &amp; Orange Labs, France); Sana Ben Jemaa (Orange Labs, France); Berna Sayrac (Orange Labs, France); Gersende Fort (CNRS, France); Eric Moulines (Télécom Paris Tech, France)</td>
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<td>11:40</td>
<td>Solving MBMS RRM Problem by Metaheuristics</td>
<td>Qing Xu (Université de Technologie de Belfort-Montbéliard, France); Hakim Mabed (Université de Franche-Comté, France); Alexandre Caminada (UTBM, France); Lassabe Frédéric (Université de Technologie de Belfort-Montbéliard, France)</td>
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<tr>
<td>12:00</td>
<td>On the Reliability of Solar-Powered Point-to-Point Radio Backhaul Networks</td>
<td>Christian Mannweiler (German Research Center for Artificial Intelligence (DFKI), Germany); Pratip Chakraborty (University of Kaiserslautern, Germany); Hans D. Schotten (University of Kaiserslautern, Germany)</td>
</tr>
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</table>
12:20 Extending satellite service availability through energy efficient cooperation
Riadh Dhaou (Université de Toulouse, INP/ENSEEIHT, IRIT, France); Benoit Escrig
(Université de Toulouse & IRIT, France); Beatrice Paillassa (ENSEEIHT, France);
Caroline Bes (CNES, France)

MWN24: Cognitive radio networks 3
Room: New York
Chair: Luis Suárez (Telecom Bretagne, France)

11:00 Channel Dependant Dynamic Threshold Control for Energy Detection Based
Spectrum Sensing
Gangming Lv (Xi'an Jiaotong University, P.R. China); Pei Zhang (Xi'an Jiaotong
University, P.R. China); Pinyi Ren (Xi'an Jiaotong University, P.R. China); Guobing Li
(Xi'an Jiaotong University, P.R. China)

11:20 A Dirty Paper Coding Scheme for Multiuser MIMO Cognitive Radio Channel
Yuting Sun (Beijing University of Posts and Telecommunications, P.R. China); Wenbo
Xu (Beijing University of Posts and Telecommunications, P.R. China); Jiaru Lin (Beijing
University of Posts and Telecommunications, P.R. China)

11:40 Trellis Shaping Based Dirty Paper Coding Scheme for the Overlay Cognitive
Radio Channel
Yuting Sun (Beijing University of Posts and Telecommunications, P.R. China); Wenbo
Xu (Beijing University of Posts and Telecommunications, P.R. China); Jiaru Lin (Beijing
University of Posts and Telecommunications, P.R. China)

12:00 Dynamic Spectrum Access for Multi-Radio Access Technology, Multi-Operator
Autonomous Small Cell Communication Systems
Ahmed Alsohaily (University of Toronto, Canada); Elvino Silveira Sousa (University of
Toronto, Canada)

12:20 An Efficient Bandwidth Aggregation Algorithm using Game Theory for
Multimedia Transmission
Tanima Dutta (TCS Innovation Labs, India); Samar Shailendra (TCS Innovation Labs,
India); Balamuralidhar P. (TCS Innovation Labs, India)

MAC07: Interference Management
Room: Pan American Room

11:00 Cross-Tier Interference-Aware Uplink Scheduling over Non-Ideal Backhaul
Haibo Wang (Beijing University of Posts and Telecommunications, P.R. China);
Zhenning Shi (France Telecom R&D, P.R. China); Liang Liu (France Telecom R&D
Beijing, P.R. China); Bin Shao (Beijing University of Posts and Telecommunications, P.R.
China)

11:20 User Partitioning Based Resource Allocation and Interference Coordination in
Heterogeneous Networks
Xi Chen (Beijing University of Posts and Telecommunications, Beijing, P.R. China);
Hailun Xia (Beijing University of Posts and Telecommunications, P.R. China); Zhimin
Zeng (Beijing University of Posts and Telecommunications, P.R. China); Shie Wu
(Beijing University of Posts and Telecommunications, P.R. China); WenQi Zuo (Beijing
University of Posts and Telecommunications, P.R. China)

11:40 Interference Alignment based Coordinated Scheduling for Uplink Small Cell
Enhancement
Yubo Yang (Alcatel Shanghai Bell, P.R. China); Qingchuan Zhang (Alcatel-Lucent
Shanghai, P.R. China); Peng Shang (Alcatel-Lucent Bell Labs & Alcatel-Lucent, P.R.
China); Jianguo Liu (Alcatel-lucent Shanghai Bell, P.R. China)

12:00 Mobility-Aware Dynamic Inter-Cell Interference Coordination in HetNets with
Cell Range Expansion
Reben Kurda (University of Paris-Sud11, France); Lila Boukhatem (University Pars-Sud
XI, France; Megumi Kaneko (Kyoto University, Japan); Tara Ali Yahiya (University Paris Sud 11, France)

12:20 **Maximum Link Activation in Wireless Networks with Cooperative Transmission and Successive Interference Cancellation**
Qing He (Linköping University, Sweden); Di Yuan (Linköping University, Sweden)

PHY27: Signal Processing for Wireless Communications I

**Room:** South American A  
**Chair:** Huan X Nguyen (Middlesex University, United Kingdom)

11:00 **Impact of Wireless Channel Uncertainty Upon M-Ary Distributed Detection Systems**  
Zahra Hajibabaei (University of Central Florida, USA); Azadeh Vosoughi (University of Central Florida, USA)

11:20 **Timing Synchronization Performance of Preamble Signal with Orthogonal Frequency Multiplexed Data Signal in the Presence of Frequency Offset**  
Takaaki Kitano (Keio University, Japan); Yuki Tanaka (Keio University, Japan); Yukitoshi Sanada (Keio University, Japan)

11:40 **Second-Order Statistics of Channel State Information in A Multi-Cell Mobile Network with Fast Fading**  
Xiang Xu (RWTH Aachen University, Germany); The Nam Pham (RWTH Aachen University, Germany); Rudolf Mathar (RWTH Aachen University, Germany)

12:00 **The Analysis of Estimation Error of Non-causal Training Based On A Unified Error Model**  
Mengbing Xia (University of Science and Technology of China, P.R. China); Li Chen (University of Science and Technology of China, P.R. China); Weidong Wang (University of Science and Technology of China, P.R. China)

12:20 **Bayesian Cram´er-Rao Bound for Distributed Vector Estimation with Linear Observation Model**  
Mojtaba Shirazi (University of Central Florida, USA); Azadeh Vosoughi (University of Central Florida, USA)

MWN21: Hetnets 2

**Room:** Statler A

11:00 **Joint Optimization of Coverage and Capacity in Heterogeneous Cellular Networks**  
Xiaojuan Wang (Beijing University of Posts and Telecommunications, P.R. China); Yinglei Teng (Beijing University of Posts and Telecommunications, P.R. China); Mei Song (Beijing University of Posts and Telecommunications, P.R. China); Xuechun Wang (Beijing University of Posts and Telecommunications, P.R. China); Anqi Xing (Beijing University of Posts and Telecommunications, P.R. China)

11:20 **A Belief Propagation Approach for Distributed User Association in Heterogeneous Networks**  
Youjia Chen (Fujian Normal University, P.R. China); Jun Li (University of Sydney, Australia); He Chen (The University of Sydney, Australia); Zhihai Lin (University of Sydney, Australia); Guoqiang Mao (The University of Technology, Sydney, Australia); Jianyong Cai (Fujian Normal University, P.R. China)

11:40 **Stochastic Geometry Analysis of Energy Efficiency in HetNets with Combined CoMP and BS Sleeping**  
Anqi He (Queen Mary, University of London, United Kingdom); Dantong Liu (Queen Mary University of London, United Kingdom); Yue Chen (Queen Mary University of London, United Kingdom); Tiankui Zhang (Beijing University of Posts and Telecommunications, P.R. China)
12:00 *Minimizing Power Consumption in HetNets with Packet Delay Constraints*
   Peng-Yong Kong (Khalifa University of Science, Technology & Research, UAE); George K. Karagiannidis (Aristotle University of Thessaloniki, Greece)

12:20 *A Base Station On-Off Model for Coverage, Throughput and Economy Analysis under HetNet*
   Sida Song (Beijing University of Posts and Telecommunications, P.R. China); Chang Yongyu (Beijing University of Posts & Telecommunications, P.R. China); Xianling Wang (Xiamen University of Technology, P.R. China); Hao Xu (Beijing University of Posts and Telecommunications, P.R. China); Tengxiao Sun (Beijing University of Posts and Telecommunications, P.R. China); Dacheng Yang (Beijing University of Posts and Telecommunications, P.R. China)

**MWN22: Wireless sensor networks 3**

Room: Statler B  
Chair: Wibowo Hardjawana (The University of Sydney, Australia)

11:00 *Modeling the Lifetime of Wireless Multimedia Sensor Networks with a Mobile Sink*
   Binbin Lv (Tongji University, P.R. China); Juan Xu (Tongji University, P.R. China); Xiaojun Zheng (Tongji University, P.R. China)

11:20 *On the Spectrum Efficiency of Mesh and Star Topology Wide Area Wireless Sensor Networks*
   Tuncer Baykas (Tohoku University, Japan); Leonardo Goratti (Create-net, Italy); Tinku Rasheed (Create-Net Research, Italy); Shuzo Kato (Tohoku University, Japan)

11:40 *3D Localization in Large-Scale Wireless Sensor Networks: A Micro-Differential Evolution Approach*
   Hojjat Salehinejad (UOIT, Canada); Robert Zadeh (UOIT, Canada); Ramiro Liscano (University of Ontario Institute of Technology, Canada); Shahryar Rahnamayan (University of Ontario Institute of Technology (UOIT), Canada)

12:00 *Regional Energy Aware Clustering with Isolated Nodes in Wireless Sensor Networks*
   Tung-Hung Chiang (National Taiwan University of Science and Technology, Taiwan); Jenq-Shiou Leu (National Taiwan University of Science and Technology, Taiwan)

12:20 *Implementation of Multi-Path Energy Routing*
   Deepak Mishra (Indian Institute of Technology Delhi, India); K Kaushik (IIT Delhi, India); Swades De (Indian Institute of Technology Delhi, India); Stefano Basagni (Northeastern University, USA); Kaushik Chowdhury (Northeastern University, USA); Soumya Jana (Indian Institute of Technology, Hyderabad, India); Wendi Heinzelman (University of Rochester, USA)

**14:00 - 15:40**

**PHY32: Interference Mitigation II**

Room: California Room

14:00 *IoT Control based on Uplink Inter-Cell Power Control in LTE System*
   Jianguo Liu (Alcatel-lucent Shanghai Bell, P.R. China); Jun Wang (Alcatel-Lucent Shanghai Bell & ALU, P.R. China); Gang Shen (Alcatel Shanghai Bell Co., Ltd., P.R. China); Yubo Yang (Alcatel Shanghai Bell, P.R. China)

14:20 *Material Transmission Loss Modeling for Indoor Propagation Modeling*
   Minoru Inomata (NTT Corporation, Japan); Tomoaki Ogawa (NTT, Japan); Shuichi Yoshino (NTT Corporation, Japan)

14:40 *Analysis of In-band Interference in Noise-based Frequency Offset Modulation*
   Ibrahim Bilal (University of Twente, The Netherlands); Arjan Meijerink (University of...
**PHY29: Cognitive and Green Radio II**

**Room:** Federal A  
**Chair:** Farrukh Aziz Bhatti (Institute of Space Technology, Islamabad, Pakistan)

**14:00 Performance Analysis of Cooperative Spectrum Sensing for Cognitive Wireless Radio Networks over Nakagami-m Fading Channels**  
Quoc-Tuan Vien (Middlesex University, United Kingdom); Huan X Nguyen (Middlesex University, United Kingdom); Ramona Trestian (Middlesex University, United Kingdom); Purav Shah (Middlesex University & School of Science and Technology, United Kingdom); Orhan Gemikonakli (Middlesex University, United Kingdom)

**14:20 Extended 4-Point Approximation of the Optimal QAM Modulation Detector**  
Yun Chen (Fraunhofer Institute for Embedded Systems and Communication Technologies ESK, Germany); Christopher Husmann (Fraunhofer Institute for Embedded Systems and Communication Technologies ESK, Germany); Ahmad Saad (Fraunhofer Institute for Embedded Systems and Communication Technologies ESK, Germany); Mike Heidrich (Fraunhofer Institute for Communication Systems (ESK), Germany)

**14:40 Simultaneous Wireless Information and Power Transfer for Cognitive Two-Way Relaying Networks**  
Xiaomei Lu (Beijing University of Posts and Telecommunications, P.R. China); Wenjun Xu (Beijing University of Posts and Telecommunications, P.R. China); Shengyu Li (Beijing University of Posts and Telecommunications, P.R. China); Zhihui Liu (Beijing University of Posts and Telecommunications, P.R. China); Jiaru Lin (Beijing University of Posts and Telecommunications, P.R. China)

**15:00 On the Use of Eigenvectors for Signal Detection and Classification in Multiple Antenna Cognitive Radios**  
Farrukh Aziz Bhatti (Institute of Space Technology, Islamabad, Pakistan); Claudio da Silva (Samsung, USA); Gerard B. Rowe (University of Auckland, New Zealand); Kevin W Sowerby (The University of Auckland, New Zealand)

**15:20 Secondary Transmit Beamformings for Spectrum Leasing in CRNs in the Presence of Eavesdropper**  
Masahiro Endo (Keio University, Japan); Tomoaki Ohtsuki (Keio University, Japan); Takeo Fujii (The University of Electro-Communications, Japan); Osamu Takyu (Shinshu University, Japan)

**PHY30: PHY Performance Evaluation II**

**Room:** Federal B  
**Chair:** Dushantha N. K. Jayakody (University College Dublin, Ireland)

**14:00 A Reliable Connectivity Based Node Placement Strategy in Linear and Hierarchical Wireless Sensor Networks**  
Salman Ali (National University of Sciences and Technology, Pakistan); Saad B. Qaisar (School of Electrical Engineering and Computer Science (SEECS), NUST & National University of Sciences & Technology, Pakistan); Emad Felemban (Umm Al Qura University, Saudi Arabia)

**14:20 Performance Analysis of Envelope Tracking Power Amplifier's Envelope Shaping Methods for LTE Mobile Terminal Application**
Yongbin Wu (Beijing University Of Posts And Telecommunications, P.R. China); Xinning Zhu (Beijing University of Posts and Telecommunications, P.R. China); Xinshulin Li (Beijing University Of Posts And Telecommunications, P.R. China); Hailun Xia (Beijing University of Posts and Telecommunications, P.R. China); Zhimin Zeng (Beijing University of Posts and Telecommunications, P.R. China)

14:40 Unified Performance Analysis of Hybrid-ARQ with Incremental Redundancy over Free-Space Optical Channels
    Emna Zedini (KAUST, Saudi Arabia); Ali Chelli (King Abdullah University of Science and Technology (KAUST), Saudi Arabia); Mohamed-Slim Alouini (King Abdullah University of Science and Technology (KAUST), Saudi Arabia)

15:00 Sub-Channel Selection for Multi-User Channel Access in Next Generation Wi-Fi
    Hanqing Lou (Interdigital, USA); Juan Fang (Interdigital, USA); Oghenekome (Kome) Oteri (InterDigital Communications, USA); Monisha Ghosh (Interdigital, USA); Pengfei Xia (Interdigital Communications, USA); Robert L. Olesen (Interdigital Communications Corp., USA)

15:20 Performance of Amplitude Modulation Schemes for Molecular Communication Over a Fluid Medium
    Amit Singhal (IIT Delhi, India); R. K. Mallik (Indian Institute of Technology - Delhi, India); Brejesh Lall (Indian Institute of Technology Delhi, India)

MWN27: Future wireless networks 3

Room: Massachusetts
Chair: Ehab Mahmoud Mohamed (Osaka University, Japan)

14:00 On the Performance Gain of Flexible UL/DL TDD with Centralized and Decentralized Resource Allocation in Dense 5G Deployments
    Venkatasubramanian Venkatkumar (Nokia-Solutions and Networks, Poland); Matthias Hesse (Nokia Solutions and Networks, Poland); Patrick Marsch (Nokia Siemens Networks, Poland); Michał Maternia (Nokia Siemens Networks, Poland)

14:20 Data offloading for multi-hop cellular networks
    Varuni Katti Sastry (Virginia Tech, USA); Allen B. MacKenzie (Virginia Tech, USA); Luiz DaSilva (Trinity College, Ireland); Beatriz Lorenzo (University of Vigo, Spain); Savo Glisic (University of Oulu, Finland)

14:40 Delayed Offloading using Cloud Cooperated Millimeter Wave Gates
    Ehab Mahmoud Mohamed (Osaka University, Japan); Kei Sakaguchi (Osaka University & Tokyo Institute of Technology, Japan); Seiichi Sampei (Osaka University, Japan)

15:00 Optimal User Association for Delay-Power Tradeoffs in HetNets with Hybrid Energy Sources
    Dantong Liu (Queen Mary University of London, United Kingdom); Yue Chen (Queen Mary University of London, United Kingdom); Kok Keong (Michael) Chai (Queen Mary, University of London, United Kingdom); Tiankui Zhang (Beijing University of Posts and Telecommunications, P.R. China)

15:20 Total Transmission Delay Minimization based Spectrum Selection Scheme for Heterogeneous Cognitive Radio Networks
    Rong Chai (Chongqing University of Posts and Telecommunications, P.R. China); Zhimin Guo (Chongqing University of Posts and Telecommunications, P.R. China); Qin Hu (Chongqing University of Posts and Telecommunications, P.R. China)

SAB05: Signal Detection Applications

Room: New York
Chair: Alkan Soysal (Bahcesehir University, Turkey)

14:00 Indoor Positioning System Based on Improved PDR and Magnetic Calibration Using Smartphone
    Chengkai Huang (Beijing University of Posts and Telecommunications, P.R. China);
14:20 *Detecting Unexpected Fall Using Array Antenna*
Yusuke Hino (Keio University, Japan); Jihoon Hong (Keio University, Japan); Tomoaki Ohtsuki (Keio University, Japan)

14:40 *A Fall Detection System Using Low Resolution Infrared Array Sensor*
Shota Mashiyama (Keio University, Japan); Jihoon Hong (Keio University, Japan); Tomoaki Ohtsuki (Keio University, Japan)

15:00 *Novel Design of Hand Motion Recognition based Visual Acuity Measurements through Wireless Communications*
Yu-Chieh Tien (National Chiao Tung University, Taiwan); Chun-Jie Chiu (National Chiao Tung University, Taiwan); Po-Hsuan Tseng (National Taipei University of Technology, Taiwan); Kai-Ten Feng (National Chiao Tung University, Taiwan)

15:20 *Blink Detection using Doppler Sensor*
Chihiro Tamba (Keio University, Japan); Tomoaki Ohtsuki (Keio University, Japan); Shoichiro Tomii (Keio University, Japan)

**MAC08: MAC Resource Allocation**

Room: Pan American Room

14:00 *Control superframe for High Throughput of Cluster-Based WBAN with CSMA/CA*
Pham Thanh Hiep (Yokohama National University, Japan); Kohno Ryuji (Yokohama National University, Japan)

14:20 *Cooperative Strategies Combination for Uplink Multi-cell Networks Under Limited Backhaul*
Pengxiang Hu (Beijing University of Posts and Telecommunications, P.R. China); Yinxiang Zhang (Beijing University of Posts and Telecommunications, P.R. China); Ningyu Chen (Beijing University of Posts and Telecommunications, P.R. China); Xiaofeng Tao (Beijing University of Posts and Telecommunications, P.R. China); Qimei Cui (Beijing University of Posts and Telecommunications, P.R. China); Yujing Shang (Beijing University of Posts and Telecommunications, P.R. China)

14:40 *Adaptive Reliability-Based Splitting Algorithms for Ordered Sequential Detection in WSNs*
Seksan Laitrakun (Georgia Institute of Technology, USA); Edward Coyle (Georgia Institute of Technology, USA)

15:00 *Head-of-Line Blocking Avoidance in Multimedia Streaming over Wireless Networks*
Evgeny Khorov (IIITP RAS, Russia); Anton Kiryanov (MIPT, IITP, Russia); Viacheslav Loginov (Institute for Information Transmission Problems, Moscow Institute of Physics and Technology, Russia); Andrey Lyakhov (Russian Academy of Science, Russia)

15:20 *Application-Specific and QoS-Aware Scheduling for Wireless Systems*
Chao He (University of South Florida, USA); Richard D. Gitlin (University of South Florida, USA)

**PHY31: Signal Processing for Wireless Communications II**

Room: South American A

14:00 *A Simplex Algorithm for LP Decoding Hardware*
Florian Gensheimer (University of Kaiserslautern, Germany); Stefan Ruzika (University of Koblenz-Landau, Germany); Stefan Scholl (University of Kaiserslautern, Germany); Norbert Wehn (University of Kaiserslautern, Germany)
14:20 An Enhanced Zero-forcing Equalizer for Combinerless LINC-OFDM Systems
Sheng-Lung Cheng (National Chiao Tung University, Taiwan); Wen-Rong Wu (National Chiao Tung University, Taiwan); Ying-Pei Hsu (National Chiao Tung University, Taiwan)

14:40 Widely Linear Receivers for SMT Systems with TX/RX Frequency-Selective I/Q Imbalance
Aamir Ishaque (RWTH, Aachen University Germany, Germany); Gerd H. Ascheid (RWTH Aachen University, Germany)

15:00 Automatic Modulation Classification using Polynomial Classifiers
Ameen Abdelmutalab (American University of Sharjah, UAE); Khaled Assaleh (American University of Sharjah, UAE); Mohamed El-Tarhuni (American University of Sharjah, UAE)

15:20 Digital Predistortion With Advance/Delay Neural Network and Comparison With Volterra Derived Models
Tomas Gotthans (Brno University of Technology, Czech Republic); Geneviève B. Baudoin (ESIEE, France); Amadou Tidiane Mbaye (Signal Processing and Telecommunications ESIEE-Paris, France)

MWN25: Smart grids and MIMO
Room: Statler A

14:00 Routing Resilience Evaluation for Smart Metering: Definition, Metric and Techniques
Ochirkhand Erdene-Ochir (Texas A&M University at Qatar, Qatar); Mohamed M. Abdallah (Texas A&M University at Qatar & Cairo University, Cairo, Qatar); Khalid A. Qaraqe (Texas A&M University at Qatar, USA); Marine Minier (Insa de Lyon, France); Fabrice Valois (INSA Lyon, France)

14:20 Cooperative Distributed Erasure Code Scheduling for Smart Grid Communications
Chun-Feng Wu (Academia Sinica, Taiwan); Wei-Ho Chung (Academia Sinica, Taiwan)

14:40 Traffic Modeling and Performance Evaluation of Wireless Smart Grid Access Networks
Obada Al-Khatib (The University of Sydney, Australia); Wibowo Hardjawana (The University of Sydney, Australia); Branka Vucetic (The University of Sydney, Australia)

15:00 Optimized Detection Scheme in Uplink Network MIMO under Constraint Backhaul
Shipeng Wang (University of Science and Technology of China, P.R. China); Li Chen (University of Science and Technology of China, P.R. China); Ying Yang (University of Science and Technology of China, P.R. China); Guo Wei (University of Sci. & Tech. of China, P.R. China)

15:20 Evaluations of Downlink Non-Orthogonal Multiple Access (NOMA) Combined with SU-MIMO
Xiaohang Chen (DOCOMO Beijing Communications Laboratories Co., Ltd, P.R. China); Anass Benjebbour (NTT DoCoMo, Inc., Japan); Yang Lan (DOCOMO Beijing Communications Laboratories Co., Ltd, P.R. China); Anxin Li (DOCOMO Beijing Communications Laboratories Co., Ltd, P.R. China); Huiling Jiang (DOCOMO Beijing Communications Laboratories Co., Ltd., P.R. China)

MWN26: Analysis and algorithms
Room: Statler B

14:00 Average Throughput Analysis of Downlink Cellular Networks with Multi-Antenna Base Stations
Rui Wang (The Hong Kong University of Science and Technology, Hong Kong); Jun Zhang (The Hong Kong University of Science and Technology, Hong Kong); Shenghui Song (The Hong Kong University of Science and Technology, Hong Kong); Khaled B. Letaief (The Hong Kong University of Science and Technology, Hong Kong)
**14:20 An Analysis on Secrecy Capacity of the Hoyt-Hoyt Fading Channel**
Xian Liu (University of Arkansas at Little Rock, USA)

**14:40 Complex Gaussian Belief Propagation Algorithms for Distributed Multicell Multiuser MIMO Detection with Imperfect Channel State Information**
Ziqi Yue (Harbin Institute of Technology, P.R. China); Qing Guo (Harbin Institute of Technology, P.R. China); Wei Xiang (University of Southern Queenslan, Australia)

**15:00 Complex Gaussian Belief Propagation Algorithms for Distributed Iterative Receiver**
Ziqi Yue (Harbin Institute of Technology, P.R. China); Qing Guo (Harbin Institute of Technology, P.R. China); Wei Xiang (University of Southern Queenslan, Australia)

**15:20 Iterative Estimation Of Undesired Signal Power For Superposed Multicarrier Transmission With Channel Estimation Error**
Yohei Shibata (Keio University, Japan); Naotoshi Yoda (Keio University, Japan); Tomoaki Ohtsuki (Keio University, Japan); Jun Mashino (NTT, Japan); Takatoshi Sugiyama (NTT, Japan)

**16:10 - 17:50**

**PHY36: Interference Mitigation III**
Room: California Room
Chair: Huan X Nguyen (Middlesex University, United Kingdom)

**16:10 Blind Interference Alignment in General Heterogeneous Networks**
Vaia Kalokidou (University of Bristol, United Kingdom); Oliver Johnson (University of Bristol, United Kingdom); Robert J Piechocki (University of Bristol, United Kingdom)

**16:30 Performance Assessment of Multi User Inter Cell Interference Alignment with Measured Channels**
Danish Aziz (Alcatel-Lucent Bell Labs, Germany); Syed Ammar Iqbal Ahmed (Alcatel-Lucent Bell Labs, Germany); Cornelis Hoek (Alcatel-Lucent Deutschland AG, Germany); Guenther Herzog (Alcatel Lucent Deutschland AG, Germany); Johannes Koppenborg (Alcatel-Lucent Deutschland AG, Germany)

**16:50 Two-Stage Interference Alignment for Partially Connected Heterogeneous Networks**
Min Sheng (Xidian University, P.R. China); Guoqing Liu (Xidian University, P.R. China); Xijun Wang (Xidian University, P.R. China); Yan Zhang (Xidian University, P.R. China); Wanguo Jiao (Xidian University, P.R. China); Ying Li (Xidian University, P.R. China)

**17:10 DoF region and sum rate analysis for the K user MIMO IC with limited CSI feedback**
Paula Aquilina (University of Edinburgh, United Kingdom); Tharmalingam Ratnarajah (The University of Edinburgh, United Kingdom); Anastasios Papazafeiropoulos (Imperial College London, United Kingdom)

**PHY33: OFDM**
Room: Federal A

**16:10 Optimal Technique with Distortion for Cubic Metric Reduction in OFDM Systems**
Xiaodong Zhu (University of Electronic Science and Technology of China, P.R. China); Xiantao Cheng (University of Electronic Science and Technology of China, P.R. China); Chusheng Fu (University of Electronic Science and Technology of China, P.R. China)

**16:30 Impulsive Noise Mitigation for OFDM-based Systems Using Enhanced Blanking Nonlinearity**
Farshad Sarabchi (Polytechnique de Montreal & Poly-Grames Research Center, Canada); Chahe Nerguizian (École Polytechnique, Canada)
**16:50 Digital Estimation and Compensation of I/Q Imbalance for Full-Duplex Dual-Band OFDM Radio**
Zhaowu Zhan (INSA Lyon, France); Guillaume Villemaud (Université de Lyon, INRIA, INSA-Lyon, CITI, France); Florin Hutu (INSA Lyon & INSA, France); Jean-Marie Gorce (INSA-Lyon, France)

**17:10 SEE-OFDM: Spectral and Energy Efficient OFDM for Optical IM/DD Systems**
Hany Elgala (Boston University & NSF Smart Lighting ERC, USA); Thomas DC Little (Boston University & NSF Smart Lighting ERC, USA)

**17:30 On the Benefits of Cooperation via Power Control in OFDM-Based Visible Light Communication Systems**
Mohamed Kashef (Texas A&M University at Qatar, Qatar); Mohamed M. Abdallah (Texas A&M University at Qatar & Cairo University, Cairo, Qatar); Khalid A. Qaraqe (Texas A&M University at Qatar, USA); Harald Haas (The University of Edinburgh, United Kingdom); Murat Uysal (Ozyegin University, Turkey)

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**PHY34: Resource Allocation**

**Room: Federal B**
Chair: Philippe Mary (INSA Rennes, IETR UMR CNRS, France)

**16:10 Reducing the Complexity of LDPC Decoding Algorithms: An Optimization-Oriented Approach**
Muris Sarajlic (Lund University, Sweden); Liang Liu (Lund University, Sweden); Ove Edfors (Lund University, Sweden)

**16:30 On the choice of carrier frequency and bandwidth for 5G small cell deployments**
Richard J. Weiler (Fraunhofer HHI, Germany); Wilhelm Keusgen (Fraunhofer Heinrich Hertz Institute, Germany); Hung-Anh Nguyen (Fraunhofer HHI, Germany); Michael Peter (Fraunhofer HHI, Germany)

**16:50 Energy Efficient Radio Resource Management in a Coordinated Multi-Cell Distributed Antenna System**
Omer Haliloglu (Hacettepe University, Turkey); Cenk Toker (Hacettepe University, Turkey); Gurhan Bulu (Hacettepe University, Turkey); Halim Yanikomeroglu (Carleton University, Canada)

**17:10 A Stepwise Radio Resource Allocation Scheme Considering Load Balancing in OFDM-based Relay/Cellular Networks**
Yujing Shang (Beijing University of Posts and Telecommunications, P.R. China); Yinjun Liu (Beijing University of Posts and Telecommunications, P.R. China); Qimei Cui (Beijing University of Posts and Telecommunications, P.R. China); Baoling Liu (Beijing University of Posts and Telecommunications, P.R. China)

**17:30 User Guided Energy and Capacity Optimization in UMTS Mobile Networks**
Joonas Säe (Tampere University of Technology, Finland); Jukka Lempiäinen (Tampere University of Technology, Finland)

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**MWN30: Hardware and modeling**

**Room: Massachusetts**
Chair: Yan Zhang (IMEC-NL, The Netherlands)

**16:10 Dual Reconfigurable Antenna Using Capacitive Coupling Slot and Parasitic Square Ring**
M. Aboualalaa (ERI, Egypt); Hala Elsadek (, Egypt); Esmat A. Abdallah (ERI, Egypt)

**16:30 A Fast Convergence Two-stage AGC for a Bluetooth Low Energy Radio with 84dB Tuning Range**
Yan Zhang (IMEC-NL, The Netherlands); Yao-Hong Liu (Imec-nl, The Netherlands); Christian Bachman (Imec-nl, The Netherlands); Guido Dolmans (Holst Centre / IMEC-NL, The Netherlands); Harmke de Groot (Holst Centre/IMEC, The Netherlands)
16:50 Impact of Energy-Efficient Cell-Breathing on the Electromagnetic Radiation Levels of Mobile Phone Devices
Luis Suárez (Telecom Bretagne, France); Loutfi Nuaymi (Telecom Bretagne, France); Christian Person (Lab-STICC/MOM UMR CNRS, France); Jean-Marie Bonnin (Institut Mines Telecom / Telecom Bretagne & IRISA, France)

Junaid A Khan (University Paris Est & University of La Rochelle, France); Hassaan Khalil Qureshi (National University of Sciences & Technology (NUST) & City University, London, Pakistan); Adnan Iqbal (Namal College Mianwali, Pakistan)

17:30 Admission Policy Based Clustering Scheme for D2D Underlay Communications
Chunyan Cao (BUPT, P.R. China); Li Wang (Beijing University of Posts and Telecommunications, P.R. China); Mei Song (Beijing University of Posts and Telecommunications, P.R. China); Yong Zhang (Beijing University of Posts and Telecommunications, P.R. China)

PHY37: Source and Channel Coding

Room: New York

16:10 Construction of Nonbinary LDPC Codes Using λ-FRC for Circle Elimination
Tiantian Wang (Zhejiang University, P.R. China); Minjian Zhao (Zhejiang University, P.R. China); Yabo Li (Zhejiang University, P.R. China); Chen Zheng (Zhejiang University, P.R. China)

16:30 Generalized Simplified Variable-Scaled Min Sum LDPC decoder for irregular LDPC Codes
Ahmed Emran (Egypt-Japan University of Science and Technology, Egypt); Maha Elsabrouty (Egypt Japan University for Science and Technology, Egypt)

16:50 Design of Distributed Jointed Source-Channel Coding Schemes in Wireless Sensor Networks for Seismic Exploration Based on QC-LDPC Codes
Dijia Xu (Beijing University of Posts and Telecommunications, P.R. China); Bie Hongxia (Beijing University of Posts and Telecommunications, P.R. China); Jian Zheng (Beijing University of Posts and Telecommunications, P.R. China)

17:10 Modeling BP Decoding Error Events with the LDPC Codes of the DVB-S2 Standard
Jean-Christophe Sibel (IETR & INSA / UEB / SNRS UMR 6164, France); Matthieu Crussière (IETR - Electronics and Telecommunications Research Institute of Rennes (IETR) & INSA - National Institute of Applied Sciences, France); Jean-François Hélard (IETR, France)

17:30 Successive Cancellation Decoders of Polar Codes Based on Stochastic Computation
Zhenglei Xu (Beijing University of Posts and Telecommunications, P.R. China); Kai Niu (Beijing University of Posts and Telecommunications, P.R. China)

MAC09: Cellular and Femtocell MAC

Room: Pan American Room

16:10 Modelling of Virtual Radio Resource Management for Cellular Heterogeneous Access Networks
Sina Khatibi (Technical University of Lisbon, Portugal); Luis M. Correia (IST - University of Lisbon & INOV-INESC, Portugal)

16:30 An Analysis of Generalized Resource Sharing for Multiple Operators in Cellular Networks
Ilaria Malanchini (Alcatel-Lucent Bell Labs, Germany); Stefan Valentin (Bell Labs & Alcatel-Lucent Deutschland AG, Germany); Osman Aydin (Alcatel-Lucent Bell Labs, Germany)
16:50 Multi-Application Resource Allocation with Users Discrimination in Cellular Networks  
Haya Shajaiah (Virginia Tech, USA); Ahmed Abdelhadi (Virginia Tech, USA); T. Charles Clancy (Virginia Tech, USA)

17:10 A Distributed Energy-Efficient Algorithm for Resource Allocation in Downlink Femtocell Networks  
Ang Li (Xi’an Jiaotong University, P.R. China); Xuwen Liao (Xi’an Jiaotong University, P.R. China); Zhenzhen Gao (Xi’an Jiaotong University, P.R. China); Yang Yang (Xi’an Jiaotong University, P.R. China)

17:30 A Component Carrier Selection Scheme in Macro and CSG Femtocells Co-channel Deployment for LTE-Advanced Downlink Systems  
Zhilin Li (Beijing University of Posts and Telecommunications, P.R. China); Hui Tian (Beijing university of posts and telecommunications, P.R. China); Liqi Gao (Beijing University of Posts and Telecommunications, P.R. China); Gaofeng Nie (Beijing University of Posts and Telecommunications, P.R. China)

PHY35: Signal Processing for Wireless Communications III

Room: South American A

16:10 A Unified Framework for Nonlinear Detections of Impulse Radio UWB Systems  
Aidong Yang (Dalhousie University, Canada); Zhimeng Xu (Fuzhou University, P.R. China); Hong Nie (University of Northern Iowa, USA); Zhizhang (David) Chen (Dalhousie University, Canada)

16:30 Fast convergence and reduced complexity receiver design for LDS-OFDM system  
Lei Wen (University of Surrey, United Kingdom); Razieh Razavi (University of Surrey, United Kingdom); Pei Xiao (University of Surrey, United Kingdom); Muhammad Ali Imran (University of Surrey, United Kingdom)

16:50 A Robust Low-Complexity MIMO Detector for Rank 4 LTE/LTE-A Systems  
Shashi Kant (Ericsson AB, Sweden); Fredrik Rusek (Lund University, Sweden); Basuki Endah Priyanto (Hi-Silicon, Sweden)

17:10 Extension of Deflection Coefficient for Linear Fusion of Quantized Reports in Cooperative Sensing  
Younes Abdi (University of Jyväskylä, Finland); Tapani Ristaniemi (University of Jyväskylä, Finland)

17:30 A Novel Time Misalignment Estimation Algorithm for Envelope Tracking (ET) Power Amplifiers (PA)  
Craig Rupp (National Instruments, USA); Gerardo Orozco Valdes (National Instruments, USA); Michael Lyons (National Instruments, USA); Sean Ferguson (National Instruments, USA); Zakir I Ahmed (National Instruments, India)

MWN28: Estimation

Room: Statler A
Chair: Mohamed M. Abdallah (Texas A&M University at Qatar & Cairo University, Cairo, Qatar)

16:10 Distributed Approach for Channel Quality Estimation Using Dedicated Nodes in Industrial WSN  
Ruan Gomes (Federal Institute of Paraíba, Brazil); Gláucio Rocha (UFPB, Brazil); Abel Lima Filho (Federal University of Paraíba, Brazil); Iguatemi E. Fonseca (Federal University of Paraíba, Brazil); Marcelo S. Alencar (Federal University of Campina Grande & Institute for Advanced Studies in Communications, Brazil)

16:30 SNR Estimation and Decision Making using Hypothesis Testing in Energy-Efficient Adaptive Modulation  
Yinyue Qiu (Institute for Telecommunications Research & University of South Australia, Australia); Ying Chen (University of South Australia, Australia); David Haley (University
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<th>Time</th>
<th>Session</th>
<th>Location</th>
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<tr>
<td>16:50</td>
<td><strong>On Energy Efficient Power Allocation for Power-Constrained Systems</strong></td>
<td>Lokman Sboui (King Abdullah University of Science and Technology (KAUST), Saudi Arabia); Zouheir Rezki (King Abdullah University of Science and Technologie (KAUST), Saudi Arabia); Mohamed-Slim Alouini (King Abdullah University of Science and Technology (KAUST), Saudi Arabia)</td>
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<td>17:10</td>
<td><strong>Tilt Angle Adaptation in LTE Networks with Advanced Interference Mitigation</strong></td>
<td>Bahar Partov (Hamilton Institute &amp; Alcatel-Lucent Bell Labs, Ireland); Douglas Leith (Hamilton, Ireland); Rouzbeh Razavi (Bell labs, Alcatel-Lucent, Ireland)</td>
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<td>17:30</td>
<td><strong>Coverage Probability of Small Cell Networks with Composite Shadowing and Fading</strong></td>
<td>Jiajia Chen (National Chiao Tung University, Taiwan); Li-Chun Wang (National Chiao Tung University, Taiwan); Chun-Hung Liu (National Chiao Tung University, Taiwan)</td>
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**MWN29: Cognitive and cooperation**

Room: Statler B  
Chair: Luiz DaSilva (Trinity College, Ireland)

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<th>Time</th>
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<tr>
<td>16:10</td>
<td><strong>An Efficient Carrier Scheduling Scheme in Cognitive LTE-Advanced System with Carrier Aggregation</strong></td>
<td>Zhang Yajun (Beijing University of Posts and Telecommunications, P.R. China); Yong Zhang (Beijing University of Posts and Telecommunications, P.R. China); Ying-lei Teng (Beijing University of Posts and Telecommunications, P.R. China); Mei Song (Beijing University of Posts and Telecommunications, P.R. China)</td>
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<td>16:30</td>
<td><strong>On the Reduction of the Noise Uncertainty Effects in Energy Detection for Spectrum Sensing in Cognitive Radios</strong></td>
<td>Daniela M Martínez (University of Baja California, Mexico); Angel G Andrade (Universidad Autónoma de Baja California &amp; Facultad de Ingeniería, Mexico)</td>
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<tr>
<td>16:50</td>
<td><strong>Deadline-Aware Adaptive Packet Scheduling and Transmission in Cooperative Wireless Networks</strong></td>
<td>Lu Zhang (Northeastern University, P.R. China); Yao Yu (Northeastern University, P.R. China); Fei Huang (Northeastern University China, P.R. China); Qingyang Song (Northeastern University, P.R. China); Lei Guo (Northeastern University, P.R. China); Shiqiang Wang (Imperial College London, United Kingdom)</td>
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<tr>
<td>17:10</td>
<td><strong>Spectral Efficiency of LTE with Small Cells and Optimum Association Threshold</strong></td>
<td>Yuan Chen (RWTH Aachen University, Germany); Bernhard H. Walke (RWTH Aachen University, Germany)</td>
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<tr>
<td>17:30</td>
<td><strong>Green Heterogeneous Network with Load Balancing in LTE-A Systems</strong></td>
<td>Qi Li (Beijing University of Posts and Telecommunications, P.R. China); Xinyu Gu (Beijing University of Posts and Telecommunications, P.R. China); Liyang Lu (Beijing University of Posts and Telecommunications, P.R. China); Lin Zhang (Beijing University of Posts and Telecommunications, P.R. China); Wenyu Li (China Academy of Telecom. Research, MIIT &amp; Beijing University of Posts and Telecommunications, P.R. China); Xiang Zhang (Beijing University of Posts and Telecommunications, P.R. China)</td>
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