Sunday, September 11

09:00 - 10:30

Tutorial 1: Interference Management in Femtocell Networks

Presenters: Ekram Hossain, Long Bao Le
Room: Pier 4

Abstract: The evolving femtocell networks are envisioned to provide improved capacity and coverage in next generation cellular wireless systems. A recent study estimates that by 2012, there could be around 70 million femto access points (FAPs) installed in homes or offices around the world, serving more than 150 million customers. However, femtocell deployments pose many challenges among which interference management is the most significant one. The aim of this tutorial is to provide an extensive overview of the interference management problem in femtocell networks considering both CDMA (e.g., 3G) and OFDMA (e.g., LTE, WiMAX) femtocells, and the state-of-the-art research on this topic. After a brief overview of the femtocell networks, we outline the major challenges in successful deployment of femtocells in next generation cellular wireless systems. In particular, the challenges related to co-tier and cross-tier interference management, mobility and handoff management, auto-configuration, timing and synchronization, and security are discussed. Then we provide a comprehensive overview of the different state-of-the-art techniques for interference management in femtocell networks. In this context, the interference modeling approach based on the shot-noise theory is also discussed. We consider both CDMA and OFDMA femtocells and two different approaches for these systems are described in detail. To this end, we outline several major open research issues and directions for future research on interference management and self-reconfiguration in femtocell networks.
Tutorial 3: Localization and Communication - Theory, Algorithms and Benefits of Localization in Wireless Networks

Presenters: Giuseppe Abreu, Giuseppe Destino, Davide Macagnano
Room: Pier 5

Abstract: This Tutorial offers a comprehensive view of technological and theoretical aspects of localization algorithms in connection with wireless communication networks. We start under the motivation of recent trends in wireless communications which point to an increasingly important role of location information both as the key parameter for new applications (such as personal navigation) and as a universal token of cognitivity which can be exploited to optimize wireless communication systems. After a brief categorization the localization problem according to the two major mathematical formulation paradigms, we discuss in concrete strategies to apply location information to the advantage of efficient communications, as well as analytical tools utilized to quantify the corresponding benefits and costs. Amongst other topics, the utilization of stochastic geometric tools in network models, novel results on the statistics of multihop distances, auctiontheoretic location-aware relay selection mechanisms, and global network performance metrics such as transport capacity, transmit capacity and information efficiency are covered. Having clearly established the potential benefits of the utilization of location information in wireless systems, and quantified the corresponding communication costs involved, we then turn our attention to a deep discussion of state-of-the-art and further advanced localization algorithm. In particular, the elementary types of data that can be exploited to produce location information, namely, connectivity, spatial correlation measures, angle information and finally, distance information are first addressed. Next, we review the most common and best-performing class of localization methods, namely distance-based algorithms, with a particular focus on the network localization application where devices are able to communicate with several other devices in their neighborhood (mesh topologies), such as in ad hoc, sensor, and future cooperative networks. Several of the most important and recently proposed approaches are described in detail, including the semidefinite and linear programming methods, gradient-based smoothed and majorized methods, as well as algebraic methods. In the sequel, the most relevant additional issues afflicting network localization systems, such as flip-ambiguity, LOS/NLOS conditions, the lack of absolute reference, and the choice between centralized and distributed approaches, are discussed. Finally, fundamental limits are reviewed and used to compare and assess the accuracies of the algorithms described. Through a comprehensive review of both theory and practical algorithms, and a keen eye on the interconnections between localization and communication, the tutorial addresses the subject with timely and solid review of contributions in the area of localization for and in wireless communication networks.

Workshop 3-1: W-Green 1: The ‘Key’ to Next Generation of Mobile Radio Access and Networks Technologies

Invited Speaker Session
Room: Harbour B


Workshop 4-1: International Workshop on Wireless Distributed Networks (Sensing)

Room: Harbour A
Chair: Kenta Umebayashi (Tokyo University of Agriculture and Technology, Japan)

New Vision for the World of Wireless Communications Enabled with Cognition
Simon Haykin (McMaster University, Canada)

Cyclostationary spectrum sensing under four-level hypothesis for spectrum sharing
Kenta Umebayashi (Tokyo University of Agriculture and Technology, Japan); Jj. Lehtomäki (University of Oulu, Finland); Shinya Hatakeyama (Tokyo University of Agriculture and Technology, Japan); Yasuo Suzuki (Tokyo University of Agriculture and Technology, Japan)

Spectrum Metrics for 2.4 GHz ISM Band Cognitive Radio Applications
Salim Hanna (Communications Research Center, Canada); John Sydor (Communications Research Centre, Canada)

10:30 - 11:00
Coffee Break
11:00 - 12:30
Tutorial 1: Interference Management in Femtocell Networks
Abstract: The evolving femtocell networks are envisioned to provide improved capacity and coverage in next generation cellular wireless systems. A recent study estimates that by 2012, there could be around 70 million femto access points (FAPs) installed in homes or offices around the world, serving more than 150 million customers. However, femtocell deployments pose many challenges among which interference management is the most significant one. The aim of this tutorial is to provide an extensive overview of the interference management problem in femtocell networks considering both CDMA (e.g., 3G) and OFDMA (e.g., LTE, WiMAX) femtocells, and the state-of-the-art research on this topic. After a brief overview of the femtocell networks, we outline the major challenges in successful deployment of femtocells in next generation cellular wireless systems. In particular, the challenges related to co-tier and cross-tier interference management, mobility and handoff management, auto-configuration, timing and synchronization, and security are discussed. Then we provide a comprehensive overview of the different state-of-the-art techniques for interference management in femtocell networks. In this context, the interference modeling approach based on the shot-noise theory is also discussed. We consider both CDMA and OFDMA femtocells and two different approaches for these systems are described in detail. To this end, we outline several major open research issues and directions for future research on interference management and self-reconfiguration in femtocell networks.

**Tutorial 3: Localization and Communication - Theory, Algorithms and Benefits of Localization in Wireless Networks**

Presenters: Giuseppe Abreu, Giuseppe Destino, Davide Macagnano

**Room: Pier 5**

Abstract: This Tutorial offers a comprehensive view of technological and theoretical aspects of localization algorithms in connection with wireless communication networks. We start under the motivation of recent trends in wireless communications which point to an increasingly important role of location information both as the key parameter for new applications (such as personal navigation) and as a universal token of cognition which can be exploited to optimize wireless communication systems. After a brief categorization the localization problem according to the two major mathematical formulation paradigms, we discuss in concrete strategies to apply location information to the advantage of efficient communications, as well as analytical tools utilized to quantify the corresponding benefits and costs. Amongst other topics, the utilization of stochastic geometric tools in network models, novel results on the statistics of multihop distances, auction-theoretic location-aware relay selection mechanisms, and global network performance metrics such as transport capacity, transmit capacity and information efficiency are covered. Having clearly established the potential benefits of the utilization of location information in wireless systems, and quantified the corresponding communication costs involved, we then turn our attention to a deep discussion of state-of-the-art and further advanced localization algorithm. In particular, the elementary types of data that can be exploited to produce location information, namely, connectivity, spatial correlation measures, angle information and finally, distance information are first addressed. Next, we review the most common and best-performing class of localization methods, namely distance-based algorithms, with a particular focus on the network localization application where devices are able to communicate with several other devices in their neighborhood (mesh topologies), such as in ad hoc, sensor, and future cooperative networks. Several of the most important and recently proposed approaches are described in detail, including the semidefinite and linear programming methods, gradient-based smoothed and majorized methods, as well as algebraic methods. In the sequel, the most relevant additional issues affecting network localization systems, such as flip-ambiguity, LOS/NLOS conditions, the lack of absolute reference, and the choice between centralized and distributed approaches, are discussed. Finally, fundamental limits are reviewed and used to compare and assess the accuracies of the algorithms described. Through a comprehensive review of both theory and practical algorithms, and a keen eye on the interconnections between localization and communication, the tutorial addresses the subject with timely and solid review of contributions in the area of localization for and in wireless communication networks.

**Workshop 3-2: W-Green 2: The ‘Key’ to Next Generation of Mobile Radio Access and Networks Technologies**

**Room: Harbour B**

**Opportunities for Energy Savings in Mobile Devices**

Per Ljung (Nokia Research, USA)

**Energy-Aware Adaptive Sectorisation in LTE Systems**

Yinan Qi (University of Surrey, United Kingdom); Muhammad Ali Imran (University of Surrey, United Kingdom); Rahim Tafazolli (University of Surrey, United Kingdom)

**Trade-off between Energy Efficiency and Spectral Efficiency in the Uplink of a Linear Cellular System with Uniformly Distributed User Terminals**

Oluwakayode Onireti (University of Surrey, United Kingdom); Fabien Héliot (University of Surrey, United Kingdom); Muhammad Ali Imran (University of Surrey, United Kingdom)

**Power Saving Potential in Heterogeneous Cellular Mobile Networks**

Attila Vidács (Budapest University of Technology and Economics, Hungary); István Góдоров (Ericsson Hungary, Hungary)
Workshop 4-2: International Workshop on Wireless Distributed Networks (Network)

Room: Harbour A
Chair: Osamu Takyu, Osamu (Shinshu University, Japan)

Two-Level Channel Coding for Cooperative Wireless Networks Based on WiMAX LDPC codes
Robert H Morelos-Zaragoza (San Jose State University, USA); Nigel D'Souza (San Jose State University, USA)

Cross-Layer Designed Adaptive Packet Length Control for Wireless Networks
Shintaro Mori (Kagawa University, Japan); Koji Ishii (Kagawa University, Japan); Shigeaki Ogose (Kagawa University, Japan)

Distributed Self-Optimization for Efficient Reconfiguration in Overlapping Heterogenous Wireless Access Networks
Dian Fan (University of Western Ontario, Canada); Xianbin Wang (The University of Western Ontario, Canada); Penghui Mi (University of Western Ontario, Canada)

Fundamental Study on Adaptive ACK Link Control for Downloading based on TCP Connection in Mobile Wireless Communication
Osamu Takyu, Osamu (Shinshu University, Japan); Yohsuke Seki (Tokyo University of Science, Japan); Takeo Yamasaki (University of Tokyo, Japan); Takeo Fujii (The University of Electro-Communications, Japan); Yohtaro Umeda (Tokyo University of Science, Japan); Xiaoqiu Wang (KDDI R&D Laboratories Inc., Japan); Satoshi Konishi (KDDI R&D Laboratories Inc., Japan)

14:00 - 15:30

Tutorial 2: Interference Alignment : A New Look at Signal Dimensions in Interference Networks

Presenters: Syed Ali Jafar
Room: Pier 4

Abstract: Interference is the primary bottleneck on the data rate capacity of most wireless and many wired networks. The recent emergence of the idea of interference alignment has shown that the throughput limits of interference networks may be orders of magnitude higher than previously imagined. In a relatively short period of three years since its emergence, the idea has gained tremendous momentum in research pursued by industry as well as the academia within the network information theory, communication theory, signal processing, and network coding communities and has produced an array of surprising and fundamental insights into the number of accessible signaling dimensions in both wireless and wired communication networks. A diversity of tools from linear algebra, algebraic geometry, diophantine approximation theory as well as coding and traditional Shannon theory continue to be the basis for an increasing variety of interference alignment schemes that include spatial alignment, lattice alignment, asymptotic alignment, asymmetric complex signal alignment, opportunistic alignment, ergodic alignment, aligned interference neutralization, blind alignment and retrospective alignment schemes. Applications include wireless interference networks, X networks, cellular networks, two- way communication networks, multicast and compound networks, multihop multifold networks, tactical communication networks with secrecy and jamming issues, cooperative communication networks, cognitive radio networks, distributed data storage networks, index coding networks, and wired multiple unicast networks. This tutorial introduces the audience to the idea of interference alignment, traces its origins, reviews a variety of interference alignment schemes, summarizes the diverse settings where the idea of interference alignment is applicable and highlights the common principles that cut across these diverse applications.

Tutorial 4: Mobile Radio Channel Sounding, Data Analysis and Radio Channel Modelling

Presenters Robert Bultitude, Sana Salous
Room: Pier 5

Abstract: This tutorial has the objective of outlining methods, measurement equipment, data analysis, and modelling procedures used by experts in the field to make mobile radio channel models available for use by systems engineers. The target audience is one composed of both students and practicing engineers considering the conduct of research in the field and/or systems engineers who use the results from such work and are seeking better knowledge of how information of importance to them is compiled. The tutorial will begin with an overview by Dr. Bultitude of the basics, including the representation of radio channels as linear filters, the making of measurements to estimate radio channel impulse response functions, and applications for such results. This is to be followed by a short discussion of methods for triggering data collection and the advantages/disadvantages of each. Most of the time in the first half of the tutorial will be devoted to an outline of best practices for the analysis of channel sounding data, including: estimation and reporting of channel impulse response functions and static rms delay spreads; the selection of appropriate intervals for dynamic channel analysis; estimation of average power delay profiles and dynamic channel rms delay spreads; estimation of 1-D and 2-D frequency correlation functions and coherence bandwidths; and application of rms delay spread and coherence bandwidth results. A brief overview of more advanced...
research work in the area of double directional channel sounding and spatial channel modelling will then be given, with emphasis on
directing participants to appropriate references for further reading. Attention will then be then turned to narrowband channel modelling for
discussion of the extraction of narrowband results from channel impulse response estimates, removal of the influence of long term
timing error from measured time series, and the modelling of short term timing error via cumulative distribution functions for envelope timing error,
including the estimation of Rician K ratios, and determining goodness of fit to hypothesised model timing error distributions. The first part of
the tutorial will end with some observations concerning the reporting of measurement and data analysis results, and some application
examples concerning the modelling of relay channels, a topic of much current new interest. In the second part of the tutorial, Professor
Salous will discuss passive and active measurement techniques using both standard test and measurement equipment such as network
analysers and spectrum analysers and custom designed radio channel sounders. The discussion of passive techniques will include
observations on the assessment of radio coverage for possible placement of relay stations and spectral sensing for cognitive radio.
Various aspects that need to be considered to design and implement both narrowband and wideband radio channel measurement
equipment will be discussed in terms of the requirements of wideband measurements for both indoor and outdoor environments. This
will include consideration of: the choice of waveform (for wideband applications in particular); processing gains associated with the use
of wideband sounding signals; time and frequency synchronisation; stability and phase noise of reference sources; as well as time delay
window and Doppler coverage. Resolution in both time delay and Doppler shift will be related to the radar ambiguity function; a number
of techniques for the calibration of sounders from back to back tests and for the calibration of antennas with single and multiple elements
in anechoic environments will be described and compared. Suitable sounder architectures for probing single band as well as multiple
band radio links, with both single antenna and multi-antenna sounders for use during both active and passive measurements will be
discussed. The tutorial will end with the presentation of examples showing measured data from the GSM and UMTS bands as well as
from higher frequencies ranging up to 6 GHz, which were recorded in indoor environments such as shopping centres, TV studios and
large office buildings, as well as outdoors in both rural/semi-rural and dense urban environments.


Presenters: Claudio da Silva, Marina Petrova
Room: Pier 9

Abstract Opportunistic spectrum access (OSA) – also commonly referred to as Dynamic Spectrum Access – is a new concept that
offers the potential for more efficient use of the radio spectrum and improved spectrum sharing. In OSA systems, users first identify idle
or underutilized spectrum with the use of white space databases and/or spectrum sensing and then, following pre-defined rules,
dynamically access the “best” frequency bands on an opportunistic and non-interfering basis. This tutorial gives an introduction to both
enabling techniques supporting OSA, namely white space databases and spectrum sensing. The first part of the tutorial is dedicated to
OSA systems based on white space databases. In these systems, OSA devices access through the Internet a database containing data
on protected services and obtain the channels that may be used at their locations. Such an approach was adopted in the U.S. for the
opportunistic access of the TV bands. Spectrum sensing, a technique that according to the FCC “holds promise to further improvements
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in spectrum efficiency in the TV spectrum in the future and will be a vital tool for providing opportunistic access to other spectrum bands”
is covered in the second part of the tutorial. We present in this tutorial the major efforts and trends in the development of these two
techniques, as well as identify and discuss their main design and implementation challenges and open research problems. Relevant
regulatory and standardization efforts will also be discussed.

Room: Harbour C

Spectrum Sensing in Cognitive Femto Base Stations Using Welch Periodogram
Ilkka S. Harjula (VTT Technical Research Centre of Finland, Finland); Atso Hekkala (VTT Technical Research Centre of Finland, Finland)

Statistical Models of Spectrum Opportunities for Cognitive Radio
Kamran Arshad (University of Surrey, United Kingdom); Klaus Moessner (University of Surrey, United Kingdom)

Multiband Time-of-Arrival positioning technique for Cognitive radio systems
Robin Thomas (University of Pretoria, South Africa); Bassem Zayen (Eurecom, France); Raymond Knopp (Institut Eurecom, France); Bodhaswar TJ Maharaj (University of Pretoria, South Africa)

Scenario-based Regulatory Requirements for Cognitive Radio
Matthias Barrie (IBBT-SMIT, Vrije Universiteit Brussel, Belgium); Simon Delaere (IBBT-SMIT, Vrije Universiteit Brussel, Belgium); Pieter Ballon (Vrije Universiteit Brussel, Belgium)

Optimal Resource Allocation in Multi-Relay Cognitive Networks Using Dual Decomposition
Musbah Shaat (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC, Spain); Faouzi Bader (CTTC & Centre Tecnològic de Telecomunicacions de Catalunya, Spain)

Workshop 3-3: W-Green 3: The ‘Key’ to Next Generation of Mobile Radio Access and Networks
Technologies

Room: Harbour B

**Power Savings in Mobile Networks by Dynamic Base Station Sectorization**  
Laszlo Hévizi (Hungary, Hungary); István Góдор (Ericsson Hungary, Hungary)

**Energy saving potential of integrated hardware and resource management solutions for wireless base stations**  
Anton Ambrosy (Alcatel-Lucent, Bell Labs, Germany); Oliver Blume (Alcatel-Lucent Bell Labs, Germany); Henrik Klessig (Technische Universität Dresden, Germany); Wieslawa Wajda (Research, Germany)

**Green Scheduling to minimize Base station Transmit power and UE circuit power consumption**  
Rohit Gupta (LETI, France); Emilio Calvanese Strinati (CEA-LETI, France)

**Minimal Average Consumption Downlink Base Station Power Control Strategy**  
Hauke Holtkamp (DOCOMO Euro-Labs & The University of Edinburgh, Germany); Gunther Auer (DOCOMO Euro-Labs, Germany); Harald Haas (The University of Edinburgh, United Kingdom)

Workshop 4-3: International Workshop on Wireless Distributed Networks (Cooperation)

Room: Harbour A  
Chair: Shinsuke Ibi (Osaka University, Japan)

**Vision for Beyond 4G Broadband Radio Systems**  
Bernhard Raaf (Nokia Siemens Networks, Germany); Wolfgang Zirwas (Nokia Siemens Networks GmbH&CoKG, Germany); Karl-Josef Friederichs (Nokia Siemens Networks, Germany); Esa Tiirola (Nokia Siemens Networks, Finland); Matti Laitila (Nokia Siemens Networks, Finland); Patrick Marsch (Nokia Siemens Networks, Poland); Risto Wichman (Aalto university school of science and Technology, Finland)

**A Study on Beam Tilt Angle of Base Station Antennas for Base Station Cooperation Systems**  
Doppo Sugimura (Tokyo Institute of Technology, Japan); Maki Arai (Tokyo Institute of Technology, Japan); Kei Sakaguchi (Tokyo Institute of Technology, Japan); Kiyomichi Araki (Tokyo Institute of Technology, Japan); Takayuki Sotoyama (Panasonic Mobile Communications Co., Ltd., Japan)

**A Bit Interleaved Repetition Coded Base Station Cooperation for Downlink OFDM Signaling**  
Bing Yuan (Osaka University, Japan); Shinsuke Ibi (Osaka University, Japan); Seiichi Sampei (Osaka University, Japan)

15:30 - 16:00

Coffee Break

16:00 - 17:30

**Tutorial 2: Interference Alignment : A New Look at Signal Dimensions in Interference Networks**

Presenter: Syed Ali Jafar  
Room: Pier 4

Abstract: Interference is the primary bottleneck on the data rate capacity of most wireless and many wired networks. The recent emergence of the idea of interference alignment has shown that the throughput limits of interference networks may be orders of magnitude higher than previously imagined. In a relatively short period of three years since its emergence, the idea has gained tremendous momentum in research pursued by industry as well as the academia within the network information theory, communication theory, signal processing, and network coding communities and has produced an array of surprising and fundamental insights into the number of accessible signaling dimensions in both wired and wireless communication networks. A diversity of tools from linear algebra, algebraic geometry, diophantine approximation theory as well as coding and traditional Shannon theory continue to be the basis for an
increasing variety of interference alignment schemes that include spatial alignment, lattice alignment, asymptotic alignment, asymmetric complex signal alignment, opportunistic alignment, ergodic alignment, aligned interference neutralization, blind alignment and retrospective align-ment schemes. Applications include wireless interference networks, X networks, cellular networks, two-way communication networks, multicast and compound networks, multihop multilow networks, tactical communication networks with secrecy and jamming issues, cooperative communication networks, cognitive radio networks, distributed data storage networks, index coding networks, and wired multiple unicast networks. This tutorial introduces the audience to the idea of interference alignment, traces its origins, reviews a variety of interference alignment schemes, summarizes the diverse settings where the idea of interference alignment is applicable and highlights the common principles that cut across these diverse applications.

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**Room:** Harbour C

This session also includes a Panel discussion following the presentation of the first paper. The topic of the panel is: “Practical Scenarios
and Opportunities for Future Cognitive Radio Systems"
Parth Amin (Aalto University, Finland); Olav Tirkkonen (Aalto University, Finland)

**Facilitating Active Hand-in using Out-of-Band Link at Femtocell**
Soumya Das (Qualcomm & Rutgers University, USA); Peerapol Tinnakornsrisuphap (Qualcomm, Inc., USA); David Ott (Qualcomm Inc, USA); Samir S. Soliman (Qualcomm, Inc, USA)

**Throughput-Based Incentives for Residential Femtocells**
Rocco Di Taranto (University of Waterloo, Canada); Catherine Rosenberg (University of Waterloo, Canada)

**Uplink Interference Management Techniques for 3G Femtocells**
Yan Zhou (Qualcomm Inc, USA); Farhad Meshkati (QUALCOMM Inc., USA); Vansh Makh (Qualcomm, USA); Yeliz Tokgoz (Qualcomm, Inc., USA); Mehmet Yavuz (Qualcomm, USA)

**Utilizing Femtocells for Peer-to-Peer File Sharing in Cellular Networks**
Martin Macuha (Waseda University, Japan); Yang-Yang Li (University of Toronto, Canada); Takuro Sato (Waseda University, Japan)

**AID-2: Traffic Management/Resource Allocation**

Room: Pier 5
Chair: Rath Vannithamby (Intel, USA)

**A Semantic Agglomerative Traffic Management Framework for Ubiquitous Public Safety Networks**
Nusrat Ahmed Surobhi (University of Sydney, Australia); Yaozhou Ma (The University of Sydney, Australia); Abbas Jamalipour (University of Sydney, Australia)

**Resource Allocation Using Shapley Value in LTE**
Mauricio Iturralde (Université de Toulouse & ENSEEIHT-IRIT, France); Tara Ali Yahiya (University Paris Sud 11, France); Anne Wei (Conservation National des Arts et Metiers, France); André-Luc Beylot (IRIT Toulouse, France)

**Towards a Fair Non-convex Resource Allocation in Wireless Networks**
Georgios Tychogiorgos (Imperial College, United Kingdom); Athanasios Gkelias (Imperial College London, United Kingdom); Kin K. K. Leung (Imperial College, United Kingdom)

**Adaptive Traffic Load-Balancing for Green Cellular Networks**
Lin Xiang (Huazhong University of Science and Technology, P.R. China); Francesco Pantisano (University of Bologna & Centre for Wireless Communications, Finland); Roberto Verdone (University of Bologna, Italy); Xiaohu Ge (Huazhong University of Science and Technology, P.R. China); Min Chen (Seoul National University, Korea)

**Transmission Power Adaptation According to the Message Length for Wireless Sensor Networks**
Denis Dessales (University of Poitiers, France)

**CRSM-1: Wideband Spectrum Sensing**

Room: Regatta
Chair: Sebastian S Szyszkoowicz (Carleton University, Canada)

**Optimized Bases Compressive Spectrum Sensing for Wideband Cognitive Radio**
Mohammed Farrag (Egypt-Japan University of Science and Technology, Egypt); Mostafa El-Khamy (Egypt-Japan University of Science and Technology & Alexandria University, Faculty of Engineering, Egypt); Mohamed El-Sharkawy (Purdue School of Engineering and Technology, USA)

**Optimal Wideband Spectrum Sensing Based on MTM with Adaptive Number of Sensors**
Lihui Huang (Shanghai Normal University, P.R. China); Li Li (Shanghai Normal University, P.R. China); Jing Zhang (Shanghai Normal University, P.R. China); Jing Liu (Shanghai Normal University, P.R. China)
**Novel Spectrum Edge Detection Techniques in Wideband Spectrum Sensing of Cognitive Radio**
Yasin Miar (University of Ottawa, Canada); Claude D'Amours (University of Ottawa, Canada)

**Reduced Complexity Multiband Multi-Sensor Spectrum Sensing**
Che Kang Liang (Queen's University, Canada); Steven D Blostein (Queen's University, Canada)

**Optimal Energy Tradeoff for Active Sensing in Cognitive Radio Networks**
Thang Van Nguyen (Kyung Hee University, Korea); Hyundong Shin (Kyung Hee University, Korea); Tony Q. S. Quek (Institute for Infocomm Research, Singapore); Moe Win (Massachusetts Institute of Technology, USA)

**CRSM-2: Cooperative Spectrum Sensing**

**Room:** Marine
**Chair:** Alagan Anpalagan (Ryerson University, Canada)

**Convex Sensing-Reporting Optimization for Cooperative Spectrum Sensing**
Adam J. G. Noel (University of British Columbia, Canada); Robert Schober (University of British Columbia, Canada)

**Performance Limitations for Cooperative Spectrum Sensing with Reporting Channel Errors**
Sachin Chaudhari (Aalto University School of Electrical Engineering, Finland); Jarmo Lundén (Aalto University, Finland); Visa Koivunen (HUT, Finland)

**Collaborative Channel Search in Cognitive Radio Networks**
Siavash Fazeli Dehkordy (University of Toronto, Canada); Konstantinos N Plataniotis (University of Toronto, Canada); Subbarayan Pasupathy (University of Toronto, Canada)

**A Low Complexity Multi-Threshold Centralized Detection Strategy for Cooperative Spectrum Sensing**
Babak Abbasi Bastami (University of Nevada, Las Vegas, USA); Ebrahim Saberinia (University of Nevada, Las Vegas, USA)

**A Weighted Fusion Scheme for Cooperative Spectrum Sensing based on Past Decisions**
Lamiaa R. Khalid (Ryerson University, Canada); Alagan Anpalagan (Ryerson University, Canada)

**LPAN-1: Physical Layer Design - 1**

**Room:** Pier 8
**Chair:** Roger Pierre Fabris Hoefel (Federal University of Rio Grande do Sul (UFRGS), Brazil)

**Throughput Sensitivity to Antenna Pattern and Orientation in 802.11n Networks**
Di Kong (University of Bristol, United Kingdom); Evangelos Mellios (University of Bristol, United Kingdom); David Halls (University of Bristol, United Kingdom); Andrew Nix (University of Bristol, United Kingdom); Geoffrey Hilton (University of Bristol, United Kingdom)

**Performance of Energy Detection in NLOS Frequency-selective Fading Channels**
Martin Bober (TU Dresden, Germany); Rainer Moorfeld (Dresden University of Technology, Germany); Eduard Jorswieck (Dresden University of Technology, Germany)

**Time and Frequency Synchronisation in Optical Wireless OFDM Networks**
Birendra Ghimire (Jacobs University Bremen, Germany); Irina Stefan (Jacobs University, Germany); Hany Elgala (Jacobs University Bremen, Germany); Harald Haas (The University of Edinburgh, United Kingdom)

**Indoor-to-outdoor path-loss models for Femtocell predictions**
Yoann Corre (SIRADEL, France); Julien Stephan (SIRADEL, France); Yves Lostanlen (SIRADEL & University of Toronto, Canada)

**Blind Estimation and Mitigation of Nonlinear Channels**
Panel 1: Femtocells & WiFi: Towards Cost efficient Ubiquitous Broadband

Organizer: Thierry Lestable, panelist: Emilio Mino Diaz, Prabhakar Chitrapu, Rahim Tafazolli, Matti Latva-aho, Nicolas Gresset,

Room: Frontenac

Femtocells and WiFi technologies are still seen by many as competitive approaches both providing cost efficient solutions for offloading traffic and thus solving capacity crunch resulting from exponentially growing data demand. However, for a whilst now, another alternative, originating from Femto Forum, and pushed also in 3GPP standard, is claiming benefits resulting from a joint Femto+WiFi integration, and interworking. IP Flow Management, and seamless intersystem handovers, resulting in cost efficient Offloading techniques are among the many potential benefits that are going to be discussed during this panel.

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Chair: Dr. Thierry Lestable, Technology & Innovation Manager, CTO Group, SAGEMCOM SAS, Paris, France • Emilio Mino Diaz, Telefonica I+D, Madrid, Spain • Dr. Prabhakar Chitrapu, InterDigital, USA • Prof. Rahim Tafazolli, University of Surrey, UK • Prof. Matti Latva-aho, University of Oulu, Finland • Dr. Nicolas Gresset, Mitsubishi Electric R&D Center Europe, France

SL-1: Wireless Communications Security

Room: Pier 3

Chair: Zhen Huang (University of Ottawa, Canada)

Preemption, Fairness, and Security Dynamics in Heterogeneous DSA Environments
Shabnam Sodagari (Virginia Tech, USA); T. Charles Clancy (Virginia Tech, USA)

Catch the Jammer in Wireless Sensor Network
Sun Yanqiangle (National University of Defense Technology, P.R. China); Refik Molva (Institut Eurecom, France); Melek Önen (EURECOM, France); Xiaodong Wang (National University of Defense Technology, P.R. China); XingMing Zhou (School of Computer, National University of Defense Technology, P.R. China)
Secure Hybrid Digital-Analog Wyner-Ziv Coding
Ghadamali Bagherikaram (University of Toronto & University of Waterloo, Canada); Konstantinos N Plataniotis (University of Toronto, Canada)

On Optimal Artificial-Noise Assisted Secure Beamforming for the Fading Eavesdropper Channel
Szu-Hsiang Lai (National Taiwan University, Taiwan); Pin-Hsun Lin (National Taiwan University, Taiwan); Shih-Chun Lin (National Taiwan University, Taiwan); Hsuan-Jung Su (National Taiwan University, Taiwan)

WACC-01: Cooperative Communications - I
Room: Harbour A
Chair: Shahram Shahbazpanahi (University of Ontario Institute of Technology, Canada)

Improving CoMP Cluster Feasibility by Dynamic Serving Base Station Reassignment
Thorsten Biermann (DOCOMO Euro-Labs, Germany); Luca Scalia (DOCOMO Euro-Labs, Germany); Changsoon Choi (DOCOMO Communications Laboratories Europe, Germany); Holger Karl (University of Paderborn, Germany); Wolfgang Kellerer (DOCOMO Communications Laboratories Europe, Germany)

Dynamic Cell Clustering Design for Realistic Coordinated Multipoint Downlink Transmission
Huan Sun (Alcatel-Lucent Shanghai Bell Co., Ltd., P.R. China); Xiaobo Zhang (Alcatel-Lucent Research and Innovation, P.R. China); Wei Fang (Alcatel-Lucent Shanghai Bell, P.R. China)

Coordinated Multipoint Multiuser-MIMO Transmissions over Backhaul-Constrained Mobile Access Networks
Changsoon Choi (DOCOMO Communications Laboratories Europe, Germany); Luca Scalia (DOCOMO Euro-Labs, Germany); Thorsten Biermann (DOCOMO Euro-Labs, Germany); Shinji Mizuta (DOCOMO Euro-Labs, Germany)

Decentralized Beam Coordination via Sum Rate Maximization in TDD Multi-cell MIMO Systems
Petri Komulainen (University of Oulu, Finland); Antti Tölli (University of Oulu, Finland); Markku Juntti (University of Oulu, Finland)

Downlink Distributed Beamforming Through Relays with Imperfect CSI
Yi Zheng (Queen's University, Canada); Steven D Blostein (Queen's University, Canada)

WACC-02: Radio Resource Management - I
Room: Harbour B
Chair: Riku Jäntti (Aalto University School of Electrical Engineering, Finland)

Power Efficient Resource Allocation in Uplink SC-FDMA Systems
Ayaz Ahmad (Supelec, France); Mohamad Assaad (Supelec, France)

Joint BS Selection and Subcarrier Assignment for Multicell Heterogeneous OFDM Unicasting
Chunhui Liu (RWTH Aachen University, Germany); Peng Wang (Institute for Theoretical Information Technology, RWTH Aachen University, Germany); Anke Schmeink (RWTH Aachen University, Germany); Rudolf Mathar (RWTH Aachen University, Germany)

Ecological Competition based Resource Control for Sustainable Heterogeneous Wireless Networks
Md. Farhad Hossain (The University of Sydney, Australia); Kumudu S Munasinghe (University of Sydney, Australia); Abbas Jamalipour (University of Sydney, Australia)

RAT Selection for Multiple Calls in Heterogeneous Wireless Networks Using Modified TOPSIS Group Decision Making Technique
Olabisi Emmanuel Falowo (University of Cape Town, South Africa); H Anthony Chan (Huawei Technologies, USA)
WACC-03: OFDM - I

Room: Harbour C
Chair: Lin Luo (University of South Australia, Australia)

A New Digital Predistorter Linearizer
Alexander Lozhkin (Fujitsu Laboratories Ltd., Japan); Michiharu Nakamura (Fujitsu Laboratories Ltd., Japan)

On Spectral Efficiency of Asynchronous OFDM/FBMC based Cellular Networks
Yahia Medjahdi (Cnam, France); Michel Terré (CNAM, France); Didier Le Ruyet (CNAM, France); Daniel Roviras (Cnam, France)

Blind frequency-dependent IQ imbalance compensation scheme using CMA for OFDM system
Munehiro Matsui (NTT Communications Corporation, Japan); Tadao Nakagawa (NTT Corporation, Japan); Riichi Kudo (NTT Corporation, Japan); Koichi Ishihara (NTT Corporation, Japan); Masato Mizoguchi (Nippon Telegraph and Telephone Corporation, Japan)

On Spatial Data Multiplexing over Coded Filter-Bank Multicarrier with ML Detection
Rostom Zakaria (CNAM, France); Didier Le Ruyet (CNAM, France)

Multicarrier HF Communications with Amplify-and-Forward Relaying
Mohammad Reza Heidarpour (University of Waterloo, Canada); Murat Uysal (Ozyegin University, Turkey)

WACC-04: Interference Management - I

Room: Pier 2
Chair: Ahmed Saadani (Orange labs, France)

Multi-objective Optimization for Intercell Interference Management in Advanced Multihop Cellular Networks
Beatriz Lorenzo (University of Oulu & Centre for Wireless Communications (CWC), Finland); Savo Glisic (University of Oulu, Finland)

General Iterative Algorithm to Align Interference along Spatial Dimension
Yinggang Du (Huawei Technologies Co., Ltd, P.R. China); Sheng Liu (Huawei Technologies Co. Ltd, P.R. China)

Iterative OFDM Receiver with Combined Interference Suppression and Cancellation
Kun Fang (DOCOMO EuroLab, Germany); Gunther Auer (DOCOMO Euro-Labs, Germany)

Single-Antenna Interference Cancellation for Complex-Valued Signal Constellations with Applications to GSM/EDGE
Andreas M. Lehmann (University of Erlangen-Nürnberg, Germany); Michael A. Ruder (University of Erlangen-Nürnberg, Germany); Wolfgang Gerstacker (University of Erlangen-Nuernberg, Germany); Robert Schober (University of British Columbia, Canada)

User Position Aware Multicell Beamforming for a Distributed Antenna System
Tuan Anh Le (King's College London, United Kingdom); Mohammad Reza Nakhai (King's College London, United Kingdom)

WNHC-1: WNHC – Channel Modeling & PHY I

Room: Pier 7
Chairs: Kamya Yekeh Yazdandoost (National Institute of Information and Communications Technology, Japan), Kamran Sayrafian (NIST, USA)

Experimental Analysis of IEEE 802.15.4 for On/Off Body Communications (invited paper)
Navid Amini (UCLA, USA); Wenyao Xu (University of California, Los Angeles, USA); Zhihuan Li (Peking University, P.R. China); Ming-Chun Huang (UCLA, USA); Majid Sarrafzadeh (UCLA, USA)

**Raptor Codes in Wireless Body Area Networks**
Jamshid Abouei (University of Toronto, Canada); Siavash Fazeli Dehkordy (University of Toronto, Canada); Konstantinos N Plataniotis (University of Toronto, Canada); Subbarayan Pasupathy (University of Toronto, Canada)

**Interference performance of IEEE 802.15.6 Impulse-Radio Ultra-Wideband Physical Layer**
Igor Dotlic (National Institute of Information and Communications Technology, Japan)

**Reconfigurable Subsampling Receiver Architecture For Wireless Body Area Networks**
Duan Zhao (Delft University of Technology & Electronics Research Laboratory, The Netherlands)

**12:00 - 13:30**

**Lunch: Will be served in Frontenac**
Rooms: Frontenac

**13:30 - 14:15**

**Keynote 1: P. R. Kumar (University of Illinois, Urbana-Champaign)**
Room: Harbour B

**Keynote 2: Ted Rappaport (University of Texas at Austin)**
Room: Pier 4

**14:15 - 14:30**

**Break**

**14:30 - 16:00**

**WWRF Special Session - Machine to machine communications: Trends, challenges, design principles, and research directions**
Room: Pier 4
Chair: Angeliki Alexiou (University of Piraeus, Greece)

**Introduction to the session**

**A joint clustering and routing scheme to maximize link performance in cooperative MIMO ad-hoc networks**
Bilal Zafar (Ilmenau University of Technology, Germany); Soheyl Gherekhloo (TU Ilmenau, Germany); Martin Haardt (Ilmenau University of Technology, Germany)

**Energy Efficient AF Relaying under Error Performance Constraints with Application to M2M Networks**
Georgina Elkheir (University of Piraeus, Greece); Athanasios Lioumpas (University of Piraeus, Greece); Angeliki Alexiou (University of Piraeus, Greece)

**Optimizing background-communication of mobile devices and sensors to drive end-user services**
Olaf Droegehorn (University of Applied Science Harz, Germany)

**AID-3: Autonomous Infrastructure Networks**
Afef Feki (Bell Labs - Alcatel Lucent - France, France); Veronique Capdevielle (Bell Labs - Alcatel Lucent - France, France)

Approaches to Enhancing Autonomous Power Control at Femto under Co-channel Deployment of Macrocell and Femtocell
Tao Yang (Alcatel-Lucent Bell Labs (China), P.R. China); Lu Zhang (Alcatel-Lucent Bell Labs, P.R. China)

Interference Mitigation through Self-Organization in OFDMA Femtocells
Yu-Shan Liang (National Taiwan University, Taiwan); Wei-Ho Chung (Academia Sinica, Taiwan); Zhang Hongke (Beijing Jiaotong University, P.R. China); Sy-Yen Kuo (National Taiwan University, Taiwan)

Self-Optimized Precoding and Power Control in Cellular Networks
Virgile Garcia (INRIA, CITI Lab, INSA Lyon, France); Chung Shue Chen (Alcatel-Lucent Bell Labs, France); Nikolai Lebedev (CPE Lyon / CITI Laboratory, University of Lyon, France); Jean-Marie Gorce (INSA-Lyon, France)

A Generalized Methodology for Frequency Reuse in Autonomous Cellular Networks
Bijan Golkar (University of Toronto, Canada); Elvino Silveira Sousa (University of Toronto, Canada)

Dynamic Resource Allocation for Cognitive OFDMA Networks based on "two witnesses rule" for Cooperative Spectrum Sensing
Rahma Bouraoui (Higher School of Communication SUP’COM & TECHTRA Reasearch Unit, Tunisia); Hichem Besbes (Ecole Superieure de Communications de Tunis, Sup’Com, University of Carthage, TUNISIA, Tunisia)

Antenna Selection Based Spectrum Sensing for Cognitive Radio Networks
Stephen Lingfeng Wang (Toshiba Research Euro ltd, United Kingdom); Yue Wang (Toshiba Research Europe Limited, United Kingdom); Justin Coon (Toshiba TRL, United Kingdom); Angela Doufexi (University of Bristol, United Kingdom)

Cross-Layer Design of Multi-user Opportunistic Spectrum Access with Cooperative Sensing
Lu Ye (Zhejiang University, P.R. China); Zhaoyang Zhang (Zhejiang University, P.R. China); Huazi Zhang (Zhejiang University, P.R. China); Xiran Ma (Zhejiang University, P.R. China)

Cooperative Learning for Reduced Complexity Cross-Layer Cognitive Radio
Andres Kwasinski (Rochester Institute of Technology, USA); Wenbo Wang (Rochester Institute of Technology, USA)

History-aware Channel Search Schemes in Cognitive Radio Networks
Arash Azarfar (Ecole Polytechnique de Montréal, Canada); Jean-François Frigon (Ecole Polytechnique de Montreal and GERAD, Canada); Brunilde Sanso (Ecole Polytechnique de Montreal, Canada)
Dariush Fooladivanda (University of Waterloo, Canada); Ashraf Daoud (University of Waterloo, Canada); Catherine Rosenberg (University of Waterloo, Canada)

**Identification of Spectrum Sharing Opportunities for a Finite Field Secondary Network through an Exact Outage Expression under Rayleigh Fading**

Arshdeep S. Kahlon (Carleton University, Canada); Sebastian S Szyszskowicz (Carleton University, Canada); Shalini Periyalwar (Carleton University, Canada); Halim Yanikomeroglu (Carleton University, Canada)

**Interference-Aware Dynamic Spectrum Access in Cognitive Radio Network**

Rajarshi Mahapatra (CEA-LETI, France); Emilio Calvanese Strinati (CEA-LETI, France)

**Predictive Opportunistic Spectrum Access using Learning based Hidden Markov Models**

Hamed Ahmadi (National University of Singapore, Singapore); Yong Huat Chew (Institute for Infocomm Research, Singapore); Pak Kay Tang (Institute for Infocomm Research, A*STAR, Singapore); Yogesh Nijsure (Newcastle University, United Kingdom)

**Spectrum Trading for Non-Identical Channel Allocation in Cognitive Radio Networks**

Mohsen Nader Tehrani (University of Waterloo, Canada); Murat Uysal (Ozyegin University, Turkey)

**Speed Adaptive Probabilistic Flooding for Vehicular Ad-Hoc Networks**

Yiannos Mylonas (University of Cyprus, Cyprus); Marios Lestas (University of Cyprus, Cyprus); Andreas Pitsillides (University of Cyprus, Cyprus); Petros Ioannou (University of Southern California, USA)

**Handshaking vs. Instant Broadcast in VANET Safety Message Routing**

Faisal Ahmad Khan (Georgia Institute of Technology, USA); Yusun Chang (Southern Polytechnic State University & The Georgia Institute of Technology, USA); Sung Jin Park (Georgia Institute of Technology, USA); John A. Copeland (Georgia Institute of Technology, USA)

**Local Density Estimation for Contention Window Adaptation in Vehicular Networks**

Razvan Stanica (National Polytechnic Institute of Toulouse, France); Emmanuel Chaput (Irit-Enseeiht, France); André-Luc Beylot (IRIT Toulouse, France)

**Characterizing Broadcast Packet Losses in IEEE 802.11p/WAVE Vehicular Networks**

Claudia Campolo (University "Mediterranea" of Reggio Calabria, Italy); Yevgeni Koucheryavy (Tampere University of Technology, Finland); Antonella Molinaro (University "Mediterranea" of Reggio Calabria, Italy); Alexey Vinel (Saint-Petersburg Institute for Informatics and Automation, Russia)

**On non-saturation regime in IEEE 802.11p based VANET with mobile nodes**

Serkan Ozturk (Erciyes University, Turkey); Jelena Mišić (Ryerson University, Canada)

**Frequency-Domain Timing Synchronization for IEEE 802.11n Communications Systems**

Ho Huat Peh (Institute for Infocomm Research & Imperial College London, Singapore); Sumei Sun (Institute for Infocomm Research, Singapore); Patrick Ho Wang Fung (Institute for Infocomm Research, Singapore); Chin Keong Ho (Institute for Infocomm Research, A*STAR, Singapore)

**Energy Detection based Blind Synchronization for Pulse Shape Modulated IR-UWB Systems**

Rizwan Akbar (Université de Bretagne Occidentale, France); Emanuel Radoi (University of Brest & Lab-STICC UMR CNRS 3192, France); Stéphane Azou (Lab-STICC/UBO, France)
Wake-up Radio using IEEE 802.11 Frame Length Modulation for Radio-On-Demand Wireless LAN
Yoshihisa Kondo (ATR Adaptive Communications Research Lab., Japan); Hiroyuki Yomo (Kansai University, Japan); Suhua Tang (ATR Adaptive Communications Research Laboratories, Japan); Masahito Iwai (NEC Communication Systems, Ltd., Japan); Toshiyasu Tanaka (NEC Communication Systems, Ltd., Japan); Hideo Tsutsui (ATR Adaptive Communications Research Laboratories, Japan); Sadao Obana (Advanced Telecommunication Research Institute International, Japan)

A Low-Cost 2.45-GHz Frequency Synthesizer with Open-Loop Modulation for WPAN Applications
Lakhdar Zaid (IM2NP & University of Provence, France); Jérémy Bouloc (IM2NP, France); Albane Sangiovanni (IM2NP & Aix Marseille University, France); Fayrouz Haddad (IM2NP-University of Provence, France); Wenceslas Rahajandraibe (IM2NP, France); Vincent Cheynet de Beaupré (Freescale Semiconductor, France); Romain Scali (Télécom SudParis, France)

OFDM-UWB MIMO Transceiver Implementation in Realistic Fading Channels
Mohamed AlJerjawi (University of Montreal, Canada); Yansheng Xu (University of Montreal-Ecole Polytechnique, Canada); Renato G. Bosisio (University of Montreal-Ecole Polytechnique, Canada); Chahe Nerguizian (Ecole Polytechnique, Canada)

LPAN-4: Relaying and Cooperative Communication - 1
Room: Pier 9
Chair: Shahram Shahbazpanahi (University of Ontario Institute of Technology, Canada)

Performance Analysis of a Cooperative MAC
David Tung Chong Wong (Institute for Infocomm Research, Singapore); Anh Tuan Hoang (Institute for Infocomm Research, Singapore); Ying-Chang Liang (Institute for Infocomm Research, Singapore); Francois Chin (Institute for InfoComm Research, Singapore)

Cooperative Communication Design with Distributed Code Allocation in a Clustered Network
Xin He (University of Agder, Norway); Frank Y. Li (University of Agder, Norway)

Investigations on the Effects of Co-channel Interference on Dual-Hop Transmission in Nakagami-m Fading
Salama Said Ikki (INRS, Canada); Sonia Aissa (University of Quebec, INRS-EMT, Canada)

Cooperative MS-Grouping Schemes Based on Three Cost Metrics for Improving Battery Lifetime and Energy Efficiency
Hansung Leem (Korea Advanced Institute of Science and Technology, Korea); Byoung Hoon Jung (Korea Advanced Institute of Science and Technology, Korea); Dan Keun Sung (Korea Advanced Institute of Science and Technology, Korea)

A low-complexity power allocation for cooperative bit-interleaved coded modulation systems with adaptive decode-and-forward relaying
Tsang-Wei Yu (National Chiao Tung University, Taiwan); Wern-Ho Sheen (Chaoyang University of Technology, Taiwan); Chung-Hsuan Wang (National Chiao Tung University, Taiwan)

Panel 2: Standardization, Technology, and Challenge For Body Area Network
Chair : Huan-Bang Li, Panelists: David Davenport, Arthur Astrin, Anuj Batra, Leif Hanlen,
Room: Frontenac

ABSTRACT: Body area network (BAN) is a promising wireless technology that realizes wireless connectivity among vital signal sensors deployed on human body. Monitoring various vital signals collected through BAN provides an efficient way to lower disease occurrence rate and reduce medical expenditure. An international standard, IEEE 802.15.6, will be approved within several months. In this panel session, we will elaborate the BAN standardization, discuss technologies and challenges for practical use of BAN to provide a full picture of this new wireless technology to the audience.  

Organizer: Huan-Bang Li  
Institution: NICT  
Email: lee@nict.go.jp  
Panelists:  
Chair : Huan-Bang Li, (Senior Researcher, National Institute of Information and Communications Technology (NICT), Japan)  
Mr. David Davenport, (Senior Engineer and Project Leader, GE Global Research, USA)  
Dr. Arthur Astrin, (Chair of Task Group 6, IEEE 802.15, USA)  
Dr. Anuj Batra, (Distinguished Member of Technical Staff, Texas Instruments, USA)  
Dr. Leif Hanlen, (Director of NICTA’s eHealth business team and project leader, NICTA, Australia)
SL-2: TOA-Based Localization Systems

Room: Pier 3
Chair: Mark Hedley (CSIRO, Australia)

Fast and Accurate Tracking in Wireless Networks
Mark Hedley (CSIRO, Australia); Ren Ping Liu (CSIRO, Australia); Xun Yang (CSIRO ICT Center, Australia)

A New Perspective on the Impact of Diffraction in Proximity of Micro-Metals for Indoor Geolocation
Fardad Askarzadeh (Worcester Polytech Institute, USA); Yunxing Ye (Worcester Polytechnic Institute, USA); Kaveh Ghaboosi (Airvana, LLC., USA); Sergey Makarov (, USA); Kaveh Pahlavan (WPI, USA)

A practical indoor TOA ranging error model for localization algorithm
Jie He (University of Science and Technology Beijing, P.R. China); Qin Wang (University of Science and Technology Beijing, P.R. China); QianXiong Zhang (University of Science and Technology Beijing, P.R. China); Bingfeng Liu (University of Science and Technology Beijing, P.R. China); Yanwei Yu (University of Science and Technology Beijing, P.R. China)

UWB Localization Algorithm to Improve Accuracy under NLOS Environment
Koji Enda (Yokohama National University, Japan); Ryuji Kohno (Yokohama National University, Japan)

Concatenated Spectrum Multi-Band TOA Estimation
Mohsen Pourkhaatoun (Michigan Technological University, USA); Seyed (Reza) Zekavat (Michigan Technological University, USA)

WACC-05: Channel Modeling, Estimation and Equalization - I

Room: Harbour A
Chair: Ioannis Psaromiligkos (McGill University, Canada)

Prediction of Frequency Selective SIMO Channels
Nico Palleit (University of Rostock, Germany); Tobias Weber (Uni Rostock, Germany)

Cramer-Rao Lower Bound for Channel Estimation in a MUROS/VAMOS Downlink Transmission
Michael A. Ruder (University of Erlangen-Nürnberg, Germany); Robert Schober (University of British Columbia, Canada); Wolfgang Gerstacker (University of Erlangen-Nuernberg, Germany)

Iterative Channel Estimation and Data Detection in Fast Fading Channels
Michael McGuire (University of Victoria, Canada)

Low Complexity Semi-Blind Channel Estimation Algorithm in Two-Way Relay Networks
Qiong Zhao (University of Sydney, Australia); Zhendong Zhou (The University of Sydney, Australia); Branka Vucetic (The University of Sydney, Australia)

Diversity Analysis of Optimal SC-FDE MIMO Systems and Comparison with OFDM Based Transmission
Gökhan Muzaffer Güvensen (Middle East Technical University, Turkey); Ali Özugr Yılmaz (Middle East Technical University, Turkey)

WACC-06: Relay Assisted Communications - I

Room: Harbour B
Chair: Amr El-Keyi (Nile University, Egypt)

Lattice-based coding scheme for MIMO bi-directional relaying with three nodes
Mylene Pischella (CNAM & Conservatoire National des Arts et Metiers, France); Le Ruyet Didier (Electronics and Communication Laboratory, France)
Network Coding Noise Reduction via Relay Power Allocation in a Two-unicast Wireless System
Zahra Mobini (K N Toosi University of Technology, Iran); Parastoo Sadeghi (The Australian National University, Australia); Saadan Zokaei (University of Technology of Tehran, Iran)

Generalized Bidirectional Multi-pair Multi-antenna Wireless Network Coding
Tanumay Datta (Indian Institute of Science, India); Ashok Kumar (Indian Institute of Science, India); A. Chockalingam (Indian Institute of Science, India)

Out of Group Interference Aware Precoding for CoMP: A Maximum Eigenmode Based Approach
Yiwei Fang (Fujitsu Laboratories of Europe Ltd., United Kingdom); John Thompson (University of Edinburgh, United Kingdom)

Precoder optimization for user fairness in shared relay channels with interference
Nicolas Gresset (Mitsubishi Electric Research Centre Europe, France)

WACC-07: MIMO Techniques - I

Room: Harbour C
Chair: Chiao-En Chen (National Chung-Cheng university, Taiwan)

Space Time Interleaving Code in Frequency Selective Channels
Peng Sun (Beijing University of Posts and Telecommunications, P.R. China); Daoben Li (Beijing University of posts and telecommunications, P.R. China)

An Efficient Feed-forward Method for Lattice Reduction MIMO Schemes
Mythri Hunukumbure (Fujitsu Labs of Europe Ltd, United Kingdom); Luciano Sarperi (Fujitsu Laboratories of Europe Ltd, United Kingdom); Sunil Vadgama (Fujitsu Laboratories of Europe Ltd, United Kingdom)

Optimizing Energy for Training vs. Data in Linearly Precoded Multiuser Sum-Rate Maximization
Adam J. Tenenbaum (University of Toronto, Canada); Raviraj Adve (University of Toronto, Canada)

Enhanced Iterative Max-Sum-Rate Algorithm for Linear MU-MIMO Precoding
Chongning Na (DOCOMO Beijing Communications Laboratories Co., Ltd., P.R. China); Xiaolin Hou (DOCOMO Beijing Communications Laboratories Co., Ltd, P.R. China); Atsushi Harada (DOCOMO Beijing Communications Laboratories Co., Ltd., P.R. China)

Joint Compensation of Multiple RF Impairments in MIMO STBC Systems
Jian Qi (King Abdullah University of Science and Technology, Saudi Arabia); Sonia Aissa (University of Quebec, INRS-EMT, Canada)

WNHC-2: WNHC – Technology, Applications & Services I

Room: Pier 7
Chair: William G. Scanlon (Queen's University Belfast & University of Twente, United Kingdom)

Localization Algorithm Performance in Ultra Low Power Active RFID Based Patient Tracking (invited paper)
William Cully (QUB, United Kingdom); Simon Cotton (Queen's University Belfast, United Kingdom); William G. Scanlon (Queen's University Belfast & University of Twente, United Kingdom); Jonathan McQuiston (ACT Wireless Limited, United Kingdom)

An Intelligent Multi-modal Affect Recognition System for Persistent and Non-invasive Personal Health Monitoring
Xiaoqing Liu (UtopiaCompression Corporation, USA); Lei Zhang (UtopiaCompression Corp., USA); Jacob Yadegar (UtopiaCompression Corporation, USA)

Markov Modeling of Energy Harvesting Body Sensor Networks
Joan Ventura (Technical University of Catalonia & Northeastern University, Spain); Kaushik Chowdhury (Northeastern University, USA)
On the accuracy of RF positioning in multi-Capsule endoscopy
Yunxing Ye (Worcester Polytechnic Institute, USA); Umair I Khan (Worcester Polytechnic Institute & Center for Wireless Information Networks, USA); Nayef A. Alsindi (Khalifa University of Science, Technology and Research - KUSTAR, UAE); Ruijun Fu (Worcester Polytechnic Institute, USA); Kaveh Pahlavan (WPI, USA)

WWRF Special Session 1: Machine to Machine Communications: Trends, Challenges, Design Principles and Research Directions

Room: Pier 4
Chair: Angeliki Alexiou (University of Piraeus, Greece)

The Internet of Things concept envisions a revolution in the way we design and use communication networks based on the assumption that everyday objects, buildings and machines are equipped with sensors and are able to communicate with each other. These Pervasive Systems – result of the integration between pervasive communications and ubiquitous computing- are expected to consist of a large number of computer-communication devices, often small in size and/or embedded in the environment. The elements of a Pervasive System interact with each other (machine to machine communications) and with mobile users, dynamically form communication networks and probe the environment in order to adapt and optimize the networks performance and the user experience and QoS. The objective of this workshop is to discuss market and technology trends and challenges, explore design principles and identify promising research directions.

16:00 - 16:30
Coffee Break

16:30 - 17:30
WWRF Special Session - Continued

Room: Pier 4
Chair: Angeliki Alexiou (University of Piraeus, Greece)

Improving Battery Life and Performance of Mobile Devices with Cyber Foraging
Janne Parkkila (Lappeenranta University of Technology, Finland); Jari Porras (Lappeenranta University of Technology, Finland)

Overall discussion

AID-4: Energy Efficient Approaches

Room: Pier 5
Chair: Sameh Sorour (University of Toronto, Canada)

Energy Efficient OFDMA: Trade-off between Computation and Transmission Energy
Feng Seng Chu (National Taiwan University, Taiwan); Kwang-Cheng Chen (National Taiwan University, Taiwan)

Iterative Tracking the Minimum of Overall Energy Consumption in OFDMA Systems
Feng Seng Chu (National Taiwan University, Taiwan); Kwang-Cheng Chen (National Taiwan University, Taiwan)

Energy Efficiency and Performance in mobile networks deployments with femtocells
Emilio Mino (Telefónica Investigacion y Desarrollo & Telefonica, Spain)

CRSM-5: Spectrum Access and Management

Room: Regatta
Chair: Victor CM Leung (The University of British Columbia, Canada)
A Stackelberg Game for Cooperative Transmission and Random Access in Cognitive Radio Networks
Xiaolei Hao (University of British Columbia, Canada); Man Hon Cheung (University of British Columbia, Canada); Vincent W.S. Wong (University of British Columbia, Canada); Victor CM Leung (The University of British Columbia, Canada)

A Novel Spectrum Selection Strategy for Matching Multi-Service Secondary Traffic to Heterogeneous Primary Spectrum Opportunities
Faouzi Bouali (Universitat Politècnica de Catalunya, Spain); Oriol Sallent (Universitat Politècnica de Catalunya, Spain); Jordi Pérez-Romero (Universitat Politècnica de Catalunya (UPC), Spain); Ramon Agustí (Universitat Politècnica de Catalunya, Spain)

An Access Technique for Secondary Network in Downlink Channels
Waqas Ahmed (Victoria University, Australia); Jason Gao (Shanghai University of Electrical Power, P.R. China); Shahryar Saleem (CTME, Australia); Mike Faulkner (Victoria University, Australia)

CRSM-6: Interference Management
Room: Marine
Chair: Lars K. Rasmussen (KTH Royal Institute of Technology, Sweden)

Aggregate interference from Secondary Users with Heterogeneous Density
Miurel Tercero (KTH, Sweden); Ki Won Sung (Royal Institute of Technology (KTH), Sweden); Jens Zander (Royal Institute of Technology (KTH), Sweden)

Model for computing aggregate interference from secondary cellular network in presence of correlated shadow fading
Kalle Ruttik (Aalto University, Finland); Konstantinos Koufos (TKK, Finland); Riku Jäntti (Aalto University School of Electrical Engineering, Finland)

Grid-based Channel Mapping in Cognitive Radio Ad hoc Networks
Sylwia Antonina Romaszko (RWTH Aachen University, Germany); Petri Mähönen (RWTH Aachen University, Germany)

LPAN-5: Sensor Networks - 1
Room: Pier 8
Chair: Shahram Shahbazpanahi (University of Ontario Institute of Technology, Canada)

Nodes Placement for reducing Energy Consumption in Multimedia Transmissions
Pasquale Pace (University of Calabria, Italy); Valeria Loscrí (University of Calabria, Italy); Enrico Natalizio (INRIA Lille - Nord Europe, France); Tahiry Razafindralambo (INRIA Lille - Nord Europe, France)

Stochastic Coverage in Event-Driven Sensor Networks
Huimin She (Royal Institute of Technology (KTH), Sweden); Zhonghai Lu (Royal Institute of Technology (KTH), Sweden); Axel Jantsch (Royal Institute of Technology (KTH), Sweden); Dian Zhou (Fudan University, P.R. China); Li-Rong Zheng (Royal Institute of Technology (KTH), Sweden)

DA-MAC: Density Aware MAC for Dynamic Wireless Sensor Networks
Giorgio Corbellini (CEA, LETI, Minatec, France); Emilio Calvenese Strinati (CEA-LETI, France); Elyes Ben Hamida (Inevovation, France); Andrzej Duda (Grenoble Institute of Technology, France)

LPAN-6: Medium Access Control - 2
Room: Pier 9
Chair: Mohamad Assaad (Supelec, France)
Olusegun O. Odejide (Prairie View A&M University, USA); Annamalai Annamalai (Prairie View A&M University, USA)

On Efficient Airtime-based Fair Link Scheduling in IEEE 802.11-based Wireless Networks
Karina Mabel Gomez (Create-Net & The University of Trento, Italy); Roberto Riggio (Create-Net, Italy); Tinku Rasheed (Create-Net Research, Italy); Imrich Chlamtac (CREATE-NET, Italy)

Distributed Optimal TXOP Control for Throughput Requirements in IEEE 802.11e Wireless LAN
Ju Yong Lee (KAIST, Korea); Ho Young Hwang (Korea Advanced Institute of Science and Technology, Korea); Jitae Shin (Sungkyunkwan University, Korea); Shahrokh Valaee (University of Toronto, Canada)

SL-3: RSS-Based Localization Methods
Room: Pier 3
Chair: Amr El-Keyi (Nile University, Egypt)

Improving the Accuracy of Connectivity-based Positioning for Mobile Sensor Networks
Stuart Maclean (York University, Canada); Suprakash Datta (York University, Canada)

Fingerprinting-Based Radio Localization in Indoor Environments Using Multiple Wireless Technologies
Moises Rodrigues (Universidade Federal de Minas Gerais, Brazil); Luiz Filipe Vieira (Universidade Federal de Minas Gerais, Brazil); Mario Montenegro Campos (Universidade Federal de Minas Gerais, Brazil)

Impact of the Human Motion on the Variance of the Received Signal Strength of Wireless Links
Kareem El-Kafrawy (Nile University, Egypt); Moustafa Youssef (Egypt-Japan University of Science and Technology (E-JUST), Egypt); Amr El-Keyi (Nile University, Egypt)

WACC-08: Diversity Techniques - I
Room: Harbour A
Chair: Benoit Champagne (McGill University, Canada)

Maximum-Likelihood MIMO Detection Using Adaptive Hybrid Tree Search
Kuei-Chiang Lai (National Cheng Kung University, Taiwan); Jiun-Jie Jia (Institute of Computer and Communication Engineering, Taiwan); Li-Wei Lin (Institute of Computer and Communication Engineering, Taiwan)

Error-rate Performance Analysis of Opportunistic Regenerative Relaying
Kamel Tourki (Texas A&M University at Qatar, Qatar); Hong-Chuan Yang (University of Victoria, Canada); Mohamed-Slim Alouini (KAUST, Saudi Arabia)

WACC-09: Cross Layer Design - I
Room: Harbour B
Chair: Tallal Elshabrawy (The German University in Cairo, Egypt)

Early-Drop based Hybrid ARQ in a Cross-layer context
Sébastien Marcille (Telecom ParisTech & Thales Communications, France); Philippe Ciblat (Telecom ParisTech, France); Christophe J. Le Martret (THALES Communications, France)

Throughput-Optimal Cross-layer Resource Allocation in DS-CDMA Systems with Nakagami Multipath Fading
Arman Shojaeifard (King's College London, United Kingdom); Mohammad Shikh-Bahaei (Kings
WACC-10: Energy Efficient Design

Room: Harbour C
Chair: Rudolf Mathar (RWTH Aachen University, Germany)

Energy Efficient Coded Cooperative Data Exchange for Mobile Users
Shahriar Etemadi Tajbakhsh (The Australian National University, Australia); Parastoo Sadeghi (The Australian National University, Australia)

On the Energy Efficiency of Base Station Sleeping with Multicell Cooperative Transmission
Shengqian Han (Beihang University, P.R. China); Chenyang Yang (Beihang University, P.R. China); Gang Wang (NEC Labs, P.R. China); Ming Lei (NEC Laboratories, P.R. China)

A Priority-aware Hybrid Multi-hop Energy Saving Strategy for Inter-eNB Scenario 2
Chongxian Zhong (Alcatel-Lucent Shanghai Bell Co., Ltd., P.R. China); Tao Yang (Alcatel-Lucent Bell Labs (China), P.R. China); Huan Sun (Alcatel-Lucent Shanghai Bell Co., Ltd., P.R. China)

WACC-11: Smart Antenna Systems

Room: Pier 2
Chair: Steven D Blostein (Queen’s University, Canada)

Power Allocation Algorithm for OFDM Distributed Antenna Systems
Wei-Peng Chen (Fujitsu Laboratories of America, USA)

SINR Balancing and Beamforming for the MISO Interference Channel
Francesco Negro (EURECOM, France); Martina Cardone (Intel Mobile Communications, Canada); Irfan Ghauri (Intel Mobile Communications, France); Dirk Slock (Eurecom, France)

Single-Port MMSE Beamforming
Brian J Lawrence (McGill, Canada); Ioannis Psaromiligkos (McGill University, Canada)

WNHC-3: WNHC - MAC & Cross Layer Design I

Room: Pier 7
Chair: Shinsuke Hara (Osaka City University, Japan)

Superframe-Level Time-hopping System with Variable Contention Access Period for Wireless Body Area Communications
Jian (Andrew) Zhang (CSIRO ICT Centre, Australia); Leif W Hanlen (National ICT Australia & Australian National University, Australia); Andrew Y Wang (MIT, USA); Xiaojing Huang (CSIRO ICT Centre, Australia)

A Cyclic MAC Layer Synchronisation Approach for Time-critical Low-power Body Sensor Networks
Christoph Beck (Karlsruhe Institute of Technology (KIT), Germany); Peter Hevesi (Karlsruhe Institute of Technology (KIT), Germany); Jörg Nagel (Karlsruhe Institute of Technology, Germany); Georg Bretthauer (Karlsruhe Institute of Technology, Germany); Rudolf Guthoff (Universität Rostock & Universitätsaugenklinik Rostock, Germany)

Action-based scheduling technique for 802.15.4/ZigBee wireless body area networks
Pooyan Abouzar (University of British Columbia, Canada); Kaveh Shafiee (The University of British Columbia, Canada); David G. Michelson (University of British Columbia, Canada); Victor CM Leung (The University of British Columbia, Canada)
Tuesday, September 13

09:00 - 10:00

PL-2: Plenary Talks - Henri Tirri and Wen Tong

Room: Frontenac

Plenary Talk by Industry Leaders: Henri Tirri (Nokia) Wen Tong (Huawei)

10:00 - 10:30

Coffee Break

10:30 - 12:00

AID-5: Femtocell Systems II

Room: Pier 4

Chair: Jacek Ilow (Dalhousie University, Canada)

A Simple Equalization Technique to Minimize ICI in OFDMA-Based Femtocell Networks
Amila P. K. Tharaperiya Gamage (University of Waterloo, Canada); Nandana Rajatheva (University of Oulu, Finland)

Downlink Interference Management Techniques for Residential Femtocells
Chirag Patel (Qualcomm, USA); Varun Khaitan (Qualcomm Inc & IIT Kanpur, USA); Sumeeth Nagaraja (QUALCOMM Inc, USA); Farhad Meshkati (QUALCOMM Inc., USA); Yeliz Tokgoz (Qualcomm, Inc., USA); Mehmet Yavuz (Qualcomm, USA)

On the Analysis of Co-Tier Interference in Femtocells
Emmanouil Pateromichelakis (University of Surrey, United Kingdom); Mehrdad Shariat (University of Surrey, United Kingdom); Atta Ul Quddus (University of Surrey, United Kingdom); Rahim Tafazolli (University of Surrey, United Kingdom)

Coverage Extension with Hybrid-Access Femtocells
Sanam Sadr (University of Toronto, Canada); Raviraj Adve (University of Toronto, Canada)

Adaptive Geolocation Based Interference Control for Hierarchical Cellular Network with Femtocells
Shweta Sagari (WINLAB, Rutgers University, USA); Gautam Bhanage (Aruba Networks, USA); Dipankar Raychaudhuri (Rutgers University, USA)

AID-6: Receiver Issues

Room: Pier 5

Chair: Abbas Jamalipour (University of Sydney, Australia)

Interference Rejection Combining in Two-Tier Femtocell Networks
Youngmin Jeong (Kyung Hee University, Korea); Hyundong Shin (Kyung Hee University, Korea); Moe Win (Massachusetts Institute of Technology, USA)

Uplink femto-macro ICIC with semi-centralized power control
Julien Guillet (Mitsubishi Electric Research Centre Europe, France); Loic Brunel (Mitsubishi Electric RCE, France); Nicolas Gresset (Mitsubishi Electric Research Centre Europe, France)

Periodic Variation Method for Blind Symbol Rate Estimation
Ahmet Guner (KTU, Turkey); Ismail Kaya (Karadeniz Technical University, Turkey)
Channel Equalization in Wavelet Packet Modulation by Minimization of Peak Distortion
Anurag Bajpai (IRCTR, The Netherlands); Madan Kumar Lakshmanan (Delft University of Technology, The Netherlands); Homayoun Nikookar (Delft University of Technology, The Netherlands)

Successive Interference Cancellation for Two-group Resource Allocation
Mustafa Gurcan (Imperial College London, United Kingdom); Hadhrami Ab Ghani (Imperial College London, United Kingdom); Irina Ma (Imperial College London, United Kingdom)

CRSM-7: Advanced Spectrum Sensing
Room: Regatta
Chair: Soon Young Oh (UtopiaCompression, USA)

Adaptive Spectrum Sensing of Wireless Microphones with Noise Uncertainty
Mai Hassan (Cairo University, Egypt); Omar Nasr (Cairo University, Egypt)

Primary-User Mobility Impact on Spectrum Sensing in Cognitive Radio Networks
Angela Sara Cacciapuoti (University of Naples Federico II, Italy); Ian F. Akyildiz (Georgia Institute of Technology, USA); Luigi Paura (Università di Napoli Federico II, Italy)

Analysis of Detection Performance in Spectrum Sensing Optimisation for Long Sensing Periods
Kevin Chang (Queensland University of Technology, Australia); Bouchra Senadjid (Queensland University of Technology, Australia); Vinod Chandran (Queensland University of Technology, Australia)

On the Performance of Dimension Estimation-based Spectrum Sensing for Cognitive Radio
Bassem Zayen (Eurecom, France)

An energy detector for spectrum sensing in impulsive noise environment
Tõnu Trump (Tallinn University of Technology, Estonia); Ivo Müürsepp (Tallinn University of Technology, Estonia)

CRSM-8: Radio Resource Allocation and Management
Room: Marine
Chair: Andres Kwasinski (Rochester Institute of Technology, USA)

Optimal Power Allocation in Multi-Hop Cognitive Radio Networks
Maksym A. Girnyk (Royal Institute of Technology, Sweden); Ming Xiao (Royal Institute of Technology, Sweden); Lars K. Rasmussen (KTH Royal Institute of Technology, Sweden)

Optimal and Suboptimal Resource Allocation For Two-Hop OFDM-Based Multi-Relay Cognitive Networks
Musbah Shaat (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC, Spain); Faouzi Bader (CTTC & Centre Tecnologic de Telecomunicaciones de Catalunya, Spain)

TDD cognitive radio femtocell network (CRFN)
Reza Berangi (, Iran); Shahryar Saleem (CTME, Australia); Mike Faulkner (Victoria University, Australia); Waqas Ahmed (Victoria University, Australia)

Distributed Cognitive Two-Way Relay Beamformer Designs under Perfect and Imperfect CSI
P Ubaidulla (King Abdullah University of Science and Technology, Saudi Arabia); Sonia Aissa (University of Quebec, INRS-EMT, Canada)

LPAN-7: MIMO Channel Modeling and Transmission Design
Room: Pier 8
Chair: Yves Lostanlen (SIRADEL & University of Toronto, Canada)
Extracting specular-diffuse clusters from MIMO channel measurements
François Quitin (Université Libre de Bruxelles (ULB), Belgium); Claude Oestges (Université Catholique de Louvain, Belgium); François Bellens (Université Libre de Bruxelles (ULB), Belgium); Stéphane van Roy (Université libre de Bruxelles & Université Catholique de Louvain, Belgium); François Horlin (Université Libre de Bruxelles, Belgium); Philipe De Doncker (ULB, Belgium)

Empirical Investigation of Multi-Link Separation for Indoor MIMO Channels
Claude Oestges (Université Catholique de Louvain, Belgium); Nicolai Czink (FTW Telecommunications Research Center Vienna, Austria)

A Performance Evaluation of 60 GHz MIMO Systems for IEEE 802.11ad WPANs
Xiaoyi Zhu (University of Bristol, United Kingdom); Angela Doufexi (University of Bristol, United Kingdom); Taskin Kocak (Bahcesehir University, Turkey)

Asymptotic analysis of the outage probability for MIMO ad-hoc networks
Hengameh Keshavarz (University of Sistan & Baluchestan, Iran); Javad Ahmadi-Shokouh (University of Sistan and Baluchestan, Iran)

Iterative Intercarrier Interference Mitigation for Mobile MIMO-OFDM Systems
Yang Zhang (Xidian University, P.R. China); Jiandong Li (Xidian University, P.R. China); Lihua Pang (Xidian University, P.R. China); Zhi Ding (UC Davis, USA)

LPAN-8: Multihop Cooperative Communication

Room: Pier 9
Chair: Suhua Tang (ATR Adaptive Communications Research Laboratories, Japan)

ECAR: an Energy/Channel Aware Routing Protocol For Cooperative Wireless Sensor Networks
Ahmed Ben Nacef (INP Toulouse & France Telecom R&D Orange Labs, Tunisia); Sidi-Mohammed Senouci (University of Bourgogne - ISAT Nevers, France); Yacine Ghamri-Doudane (Université Paris-Est (LIGM Lab) & ENSIEE, France); André-Luc Beylot (IRIT Toulouse, France)

Marcos Tomio Kakitani (UTFPR, Brazil); Glauber Gomes de Oliveira Brante (Federal University of Technology - Paraná (CPGEI/UTFPR), Brazil); Richard Demo Souza (Federal University of Technology - Paraná (UTFPR), Brazil); Anelise Munaretto (UTFPR, Brazil)

Femto-Relays: A Power Efficient Coverage Extension Mechanism for Femtocells
Ponnu Jacob (Nanyang Technological University, Singapore); A S Madhukumar (Nanyang Technological University, Singapore)

A Study on Outage Probability of Collaborative Multi-Hop Transmissions with Non-Uniformly Distributed Networks
Toshiki Kobayashi (Shizuoka University, Japan); Koji Ishibashi (Harvard University & Shizuoka University, USA); Tadahiro Wada (Shizuoka University, Japan)

An Experimental Study of Fractional Cooperation in Wireless Mesh Networks
Anthony Calce (York University, Canada); Nariman Farsad (York University, Canada); Andrew Eckford (York University, Canada)

Panel 3: Which will be the Winning Technologies for the Networks of the Future?
Chair: Luis M. Correia, Panelists: Marcus Brunner, Hamid Aghvami, Dipankar Raychaudhuri, Henry Tirri
Room: Frontenac

ABSTRACT: It's already a common place that current communications networks cannot cope with the challenges that are ahead concerning the Future Internet, in terms of the volume of data being accessed and transported, the services and applications that will be made available, and the number of devices that will be connect, among other aspects. The evolution of IP, with its many patches, has
proved not to be the solution, and many developments are on the way, concerning the radio interface and radio networks, on the one hand, and the architecture of networks and transport of data, on the other. Approaches like the virtualisation of networks, information centric networks, cloud computing and networking, self-network management, and connectivity services are among the many techniques being currently developed, aiming at contributing to give the answer to the problems raised by the Future Internet. Some constraints need to be considered as well, e.g., security and privacy, energy efficiency, feasible business models, and inclusion of user’s characteristics. With all these ingredients, one may discuss which areas will really be deployed, and which will be left on the way for one reason or another. This panel will address these issues, discussing the developments for the networks of the future, and their potential impact.

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Organizer: Luis M. Correia
Institution: IST/IT - Technical University of Lisbon
Email: luis.correia@lx.it.pt
Panelists:
- Chair: Luis M. Correia (Professor, IST/IT – Technical University of Lisbon, Lisbon, Portugal).
- Marcus Brunner (Chief Researcher and Manager, NEC Laboratories, Heidelberg, Germany).
- Hamid Aghvami (Professor, King’s College – University of London, London, UK).
- Dipankar Raychaudhuri (Professor and Director, WINLAB/Rutgers University, North Brunswick, NJ, USA).
- Henry Tirri (Senior Vice-President and Head, Nokia Research Center, Palo Alto, USA).

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SL-4: Wireless Network Security

Room: Pier 3
Chair: Iwao Sasase (Keio University, Japan)

Location-based Anonymous Authentication for Vehicular Communications
Subir Biswas (University of Manitoba, Canada); Jelena Mišić (Ryerson University, Canada)

On the resiliency of sensor networks under the pairwise key distribution scheme
Osman Yagan (University of Maryland, USA); Armand M. Makowski (University of Maryland, USA)

Efficient Solution to Decrease the Effect of DoS Attack against IP Address Ownership Proof in Mobile IPv6
Kentaroh Toyoda (Keio University, Japan); Yuta Kamiguchi (Keio University, Japan); Shinichiro Inoue (University of Keio, Japan); Iwao Sasase (Keio University, Japan)

Limitations of Trust Management Schemes in VANET and Countermeasures
Zhen Huang (University of Ottawa, Canada); Sushmita Ruj (University of Ottawa, Canada); Marcos Cavenagh (Unesp - Sao Paulo State University, Brazil); Amiya Nayak (SITE, University of Ottawa, Canada)

Neural Network Based PHY-Layer Key Exchange for Wireless Communications
Dimitrios S. Karas (Aristotle University of Thessaloniki, Greece); George K. Karagiannidis (Aristotle University of Thessaloniki, Greece); Robert Schober (University of British Columbia, Canada)

WACC-12: Cooperative Communications - II

Room: Harbour A
Chair: Fu-Chun Zheng (The University of Reading, United Kingdom)

Information Theoretic Performance of Cooperative Underwater Acoustic Communications
Suhail Al-Dharrab (University of Waterloo, Canada); Murat Uysal (Ozyegin University, Turkey)

A Game Theoretic Approach for Content Distribution over Wireless Networks with Mobile-to-Mobile Cooperation
Lina Al-Kanj (American University of Beirut, Lebanon); Walid Saad (University of Miami, USA); Zaher Dawy (American University of Beirut, Lebanon)

A Novel Optimization Approach for Packet-wise Selective Relaying in CDMA Uplink Communications
Naoufel Debbabi (Sup'Com, Tunisia); Inès Kammoun (ENIS, Tunisia); Mohamed Siala (Sup'Com, Tunisia)

Cooperative Broadcast Channels with Hybrid ARQ
Ravi Narasimhan (Applied Micro Circuits Corporation, USA)

DMT Analysis and Optimization for Cooperative Multiuser OFDMA systems
Weiwei Yang (Institute of Communications Engineering, PLAUST, P.R. China); Cai Yueming (Institute of Communications Engineering, PLAUST, P.R. China); Yan Wang (Department of International
WACC-13: Radio resource management - II

Room: Harbour B
Chair: Mohamad Assaad (Supelec, France)

A Dynamic TDD Inter-Cell Interference Coordination scheme for Long Term Evolution Networks
Mohammed Al-Rawi (Aalto University, Finland); Riku Jäntti (Aalto University School of Electrical Engineering, Finland)

A Novel Distributed Inter-cell Interference Coordination Scheme based on Projected Subgradient and Network Flow Optimization
Akram Bin Sediq (Carleton University, Canada); Rainer Schoenen (RWTH Aachen University, Faculty 6, Germany); Halim Yanikomeroglu (Carleton University, Canada); Gamini Senarath (Huawei Technologies Canada CO., LTD., Canada); Zhijun Chao (Huawei Technologies, P.R. China)

Comparison of Different Network Densification Alternatives from the LTE Uplink Point of View
Kimmo Hiltunen (Ericsson Research, Oy L M Ericsson Ab, Finland)

Dynamic Fractional Power Control for LTE Uplink
Safa Essassi (Higher School of Communication of Tunis Sup'Com, Tunisia); Mohamed Siala (Sup'Com, Tunisia); Sofiane Cherif (Sup'Com, Tunisia)

WACC-14: OFDM - II

Room: Harbour C
Chair: Fumihiro Hasegawa (Mitsubishi Electric Corporation, Japan)

A Low Complexity Receiver for T-transform based OFDM Systems
Imran Ali (University of South Australia, Australia); André Pollok (University of South Australia, Australia); Lin Luo (University of South Australia, Australia); Linda M. Davis (University of South Australia, Australia)

Near-Optimal Linear Precoding for Multi-Point Cooperative Transmission with Frequency-Selective Channel
Qingjiang Shi (Research & Innovation Center, Alcatel-Lucent Shanghai Bell, P.R. China); Jinsong Wu (Bell Laboratories & Alcatel-Lucent, P.R. China)

A Novel Link Adaptive Transmission Scheme in Higher-Order MIMO Systems
Minxia Hu (Southeast University, P.R. China); Shi Jin (Southeast University, P.R. China); Xiqi Gao (Southeast University, P.R. China)

Enhanced Alamouti Decoding Scheme for DVB-T2 Systems in SFN Channels
Aymen Omri (ENIT, Qatar); Ridha Hamila (Electrical Engineering, Qatar); Ali Hazmi (Tampere University of Technology, Finland); Ridha Bouallegue (National Engineering School of Sousse SUP’COM, 6’Tel Laboratory, Tunisia); Arafat J. Al-Dweik (Khalifa University, UAE)

Sensitivity Analysis of Interleaved OFDMA System Uplink to Carrier Frequency Offset
Sayyed Kazem Hashemizadeh (Isfahan University of Technology, Iran); Hamid Saeedi-Sourck (Isfahan University of Technology, Iran); Mohammad Javad Omid (Isfahan University of Technology, Iran)

WACC-15: Analysis, Simulation and Performance Evaluation - I

Room: Pier 2
Chair: Zouheir Rezki (King Abdullah University of Science and Technology (KAUST), Saudi Arabia)

Analytical Evaluation of LTE Uplink Performance in the IMT-Advanced Indoor Hotspot Scenario
Maciej Mühleisen (RWTH Aachen University, Faculty 6, Germany); Bernhard H. Walke (RWTH Aachen University, Germany)

**A Study on Design of Spatial Fading Emulator Based on Clarke’s Model**
Daisuke Matsuo (Tokyo Institute of Technology, Japan); Maki Arai (Tokyo Institute of Technology, Japan); Kei Sakaguchi (Tokyo Institute of Technology, Japan); Kiyomichi Araki (Tokyo Institute of Technology, Japan)

**A Handover Optimization Algorithm with Mobility Robustness for LTE systems**
Koichiro Kitagawa (KDDI R&D Laboratories Inc., Japan); Toshihiko Komine (KDDI R&D Labs., Inc., Japan); Toshiaki Yamamoto (KDDI R&D Laboratories, Japan); Satoshi Konishi (KDDI R&D Laboratories Inc., Japan)

**Throughput Analysis of TDD LTE Random Access Channel**
Ivan Vukovic (Nokia Siemens Networks, USA); Igor Filipovich (Motorola, Inc., USA)

**Hybrid Space-Time Diversity and Spatial-Multiplexing MIMO Cooperative Scheme for Wireless Communication Systems**
Daniel R. Furtado (Federal University of Ceará, Brazil); Francisco Márcio Caldas (Federal University of Ceará, Brazil); Walter Cruz Freitas (Federal University of Ceará & Wireless Telecom Research Group, Brazil)

**WNHC-4: WNHC - Channel Modeling & PHY II**

Room: Pier 7
Chair: Yu Ge (Institute for Infocomm Research, Singapore)

**Interference Mitigation for Body Area Networks**
Wen-Bin Yang (NIST, USA); Kamran Sayrafian (NIST, USA)

**Performance and Transmission Power Bound Analysis for Optical Wireless based Mobile Healthcare Applications**
Seyed Sina Torkestani (University of Limoges, France); Nicolas Barbot (Universirty of Limoges, France); Stephanie Sahuguede (University of Limoges, France); Anne Julien-Vergonjanne (University of Limoges, France); Jean Pierre Cances (University of Limoges, France)

**Dynamic Power Control in Wireless Body Area Networks Using Reinforcement Learning with Approximation**
Ramtin Kazemi (Macquarie University, Australia); Rein Vesilo (Macquarie University, Australia); Eryk Dutkiewicz (Macquarie University, Australia); Ren Ping Liu (CSIRO, Australia)

**Doppler Spread Analysis of Human Motions for Body Area Network Applications**
Ruijun Fu (Worcwster Polytechnic Institute, USA); Yunxing Ye (Worcester Polytechnic Institute, USA); Ning Yang (Worcwster Polytechnic Institute, USA); Kaveh Pahlavan (WPI, USA)

**A Statistical Analysis of the Influence of the Human Body on the Radiation Pattern of Wearable Antennas**
Michal Mackowiak (Technical University of Lisbon, Portugal); Carla Oliveira (Technical University of Lisbon, Instituto Superior Tecnico & Instituto de Telecomunicações, Portugal); Carlos Lopes (Instituto Superior Tecnico, Portugal); Luis M. Correia (IST - Technical University Lisbon, Portugal)

**12:00 - 13:30**
Lunch
Room: Frontenac

**13:30 - 14:15**
Keynote 3: Dipankar Raychaudhuri (WINLab)
Room: Harbour B

Keynote 4: Sergio Verdu (Princeton University)
Room: Pier 4

14:15 - 14:30
Break

14:30 - 16:00
AID-7: LTE Networks
Room: Pier 5
Chair: Sofiene Affes (INRS-EMT, Canada)

Performance of LTE SON Uplink Load Balancing in Non-Regular Networks
Jussi Turkka (Tampere University of Technology, Finland); Timo Nihtilä (Magister Solutions Ltd., Finland); Ingo Viering (Nomor Research GmbH, Germany)

Interference Coordination Based on Hybrid Resource Allocation for Overlaying LTE Macrocell and Femtocell
Bo Li (Beijing University of Posts and Telecommunications, P.R. China); Yinghai Zhang (Beijing University of Posts and Telecommunications, P.R. China); Gaofeng Cui (Beijing University of Posts and Telecommunications, P.R. China); Weidong Wang (Beijing University of Posts and Telecommunications, P.R. China); Jie Duan (Beijing University of Posts and Telecommunications, P.R. China); Wenqing Chen (Beijing University of Posts and Telecommunications, P.R. China)

Design of Layered Radio Environment Maps for RAN Optimization in Heterogeneous LTE Systems
Tao Cai (Huawei Technologies Sweden AB, Sweden); Jaap van de Beek (Huawei Technologies, Sweden); Berna Sayrac (Orange Labs, France); Sébastien Grimoud (France Telecom R&D & Telecom ParisTech, France); Jad Nasreddine (RWTH Aachen University, Germany); Janne Riihijärvi (RWTH Aachen University, Germany); Petri Mähönen (RWTH Aachen University, Germany)

How femtocells impact the capacity and the energy efficiency of LTE-Advanced networks
Louai Saker (Orange Labs, France); Salah Eddine Elayoubi (Orange Labs, France); Tijani Chahed (Telecom SudParis, France)

E3F based assessment of energy efficiency of Relay Nodes in LTE-Advanced networks
Roberto Fantini (Telecom Italia SpA, Italy); Dario Sabella (Telecom Italia, Italy); Marco Caretti (Telecom Italia, Italy)

CRSM-10: Estimation and Detection Techniques
Room: Marine
Chair: Satyam Dwivedi (KTH Royal Institute of Technology, Sweden)

A Multiband MIMO Receiver with Ordered Successive Detection for Cognitive Radio
Tomoya Ohta (Kyoto University, Japan); Satoshi Denno (Kyoto University, Japan); Masahiro Morikura (Kyoto University, Japan); Tatsuo Furuno (NTT DoCoMo, Inc., Japan)

Estimating Transmitter Activity Patterns: an Empirical Study in the Indoor Environment
Elena Meshkova (RWTH Aachen University, Germany); Junaed Ansari (RWTH Aachen University, Germany); Janne Riihijärvi (RWTH Aachen University, Germany); Jad Nasreddine (RWTH Aachen University, Germany); Jad Nasreddine (RWTH Aachen University, Germany); Petri Mähönen (RWTH Aachen University, Germany)

An Adaptive Energy Detection Technique Applied to Cognitive Radio Networks
A Wideband Interference Power Estimator using a 1-bit Quantizer
Satyam Dwivedi (KTH Royal Institute of Technology, Sweden); Alessio De Angelis (Royal Institute of Technology, KTH, Sweden); Peter Händel (Royal Institute of Technology, Sweden)

CRSM-9: Cognitive Radio: Applications and Operations

Room: Regatta
Chair: Faouzi Bader (CTTC & Centre Tecnologic de Telecomunicacions de Catalunya, Spain)

A short feasibility study of a cognitive TV black space system
Yngve Selén (Ericsson AB, Sweden); Robert Baldemair (Ericsson Research, Sweden); Joachim Sachs (Ericsson Research, Germany)

Feasibility evaluations for secondary LTE usage in 2.7-2.9GHz radar bands
Muhammad Imadur Rahman (Ericsson Research, Sweden); Jörgen Karlsson (Ericsson Research, Sweden)

Cognitive radio implementation in ISM bands with Microsoft SORA
Jitin Bajaj (University of California, Los Angeles, USA); Wooseong Kim (UCLA, USA); Soon Young Oh (UtopiaComression, USA); Mario Gerla (University of California at Los Angeles, USA)

An analysis of radio fingerprints behavior in the context of RSS-based location fingerprinting systems
Azin Arya (Ecole Télécom Paris-Tech, France); Philippe Godlewski (Telecom ParisTech (ENST), France)

Reporting Effort for Cooperative Systems Applying Interference Floor Shaping
Wolfgang Mennerich (Nokia Siemens Networks GmbH&CoKG & TU-Berlin, Germany); Wolfgang Zirwas (Nokia Siemens Networks GmbH&CoKG, Germany)

ITN-2: Field Operational Tests, Applications, Intelligent Transportation Systems

Room: Pier 2
Chair: Jelena Milić (Ryerson University, Canada)

Experimental Analysis of Beamforming in High-Speed Railway Communication
Hung-Hsiang Wang (Industrial Technology Research Institute, Taiwan); Hsin-An Hou (Industrial Technology Research Institute, Taiwan)

CVI: Connected Vehicle Infrastructure for ITS
Agop Koulakezian (University of Toronto, Canada); Alberto Leon-Garcia (University of Toronto, Canada)

Efficient Secure Service Discovery Protocol for Intelligent Transportation Systems
Kaouther Abrougui (SITE, University of Ottawa, Canada); Azzedine Boukerche (University of Ottawa, Canada)

Exploiting Trunked Radio to Support ITS Network Expansion and Redundancy
Ekasit Vorakitolan (The University of Oklahoma, USA); Joseph P. Havlicek (University of Oklahoma, USA); Mohammed Atiquzzaman (University of Oklahoma, USA); Ronald Barnes (The University of Oklahoma, USA)

Sharing Vehicle and Infrastructure Intelligence for Assisted Intersection Safety
Somak Datta Gupta (UC Berkeley, USA); Yaser P. Fallah (West Virginia University, USA); Steven Shladover (UC Berkeley, USA)

LPAN-10: Sensor Networks - 2
Panel 4: Heterogeneous Networks

Chair: Laurent Roulet, Panelists: Pantelis Monogioudis, Ekram Hossain, Laurent Roulet, Yves Lostonlen
Room: Frontenac

The panel will try to illustrate heterogeneous networks diversity as follows: 1) What defines specifically a heterogeneous network? 2) Why are hetnet so important in the current context of wireless data brisk increase? 3) What are their main technical challenges? 4) Are they just a transition point or a destination for incumbent operators, an opportunity or a drawback for greenfield operators? --- Panelists:
SL-5: INS, Dead-Reckoning, and Vehicular Localization

Room: Pier 3

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

Zigbee as a Means to Reduce the Number of Blind Spot Incidents of a Truck
Steven De Lausnay (Catholic University College Ghent & DraMCo, Belgium); Thomas Standaert (Catholic University College Ghent, Belgium); Nobby Stevens (Catholic University College Ghent, Belgium); Wout Joseph (Ghent University, Belgium); Leen Verloock (IBBT - Ghent University, Belgium); Luc Martens (Ghent University, Belgium)

Performance analysis of a novel pedestrian dead-reckoning method
Bogdan Pricope (Jacobs University Bremen, Germany); Harald Haas (The University of Edinburgh, United Kingdom)

A Walking Velocity Update Technique for Pedestrian Dead-Reckoning Applications
Chi Chung Lo (National Chiao Tung University, Taiwan); Chen-Pin Chiu (National Chiao Tung University, Taiwan); Yu-Chee Tseng (National Chiao-Tung University, Taiwan); Sheng-An Chang (Industrial Technology Research Institute, Taiwan); Lun-Chia Kuo (ITRI, Taiwan)

Usability of Apple iPhones for Inertial Navigation Systems
Corina Schindhelm (University of Munich, Germany); Florian Gschwandtner (University of Munich, Germany); Michael Banholzer (University of Munich, Germany)

A Nearest Transmitter Classification Method for VLC Based Positioning System
Chinnapat Sertthin (Keio University, Japan); Tomoaki Ohtsuki (Keio University, Japan); Osamu Takyu, Osamu (Shinshu University, Japan); Takeo Fujii (The University of Electro-Communications, Japan); Yohtaro Umeda (Tokyo University of Science, Japan)

WACC-16: Channel Modeling, Estimation and Equalization - II

Room: Harbour A

Chair: Fu-Chun Zheng (The University of Reading, United Kingdom)

Low-complexity frequency offset and phase noise estimation for burst-mode digital transmission
Jabran Bhatti (Ghent University, Belgium); Nele Noels (Ghent University, Belgium); Marc Moeneclaey (Ghent University, Belgium)

Second-Order Statistics of 2D Non Isotropic Mobile-to-Mobile Wireless Channels
Prasad Samarasinghe (Australian National University, Australia); Thushara D. Abhayapala (Australian National University, Australia); Tharaka Anuradha Lamahewa (DSTO, Australia); Rodney Andrew Kennedy (The Australian National University, Australia)

Widely Linear vs. Conventional Subspace-Based Estimation of SIMO Flat-Fading Channels
Saeed Abdallah (McGill University, Canada); Ioannis Psaromiligkos (McGill University, Canada)

Performance Evaluation of Downlink Beamforming over Non-Stationary Channels with Interference
Adrian Ispas (RWTH Aachen University, Germany); Christian Schneider (Ilmenau University of Technology, Germany); Gerd H. Ascheid (RWTH Aachen University, Germany); Reiner S. Thomä (TU-Illmenau, Germany)

Bayesian and Deterministic CRBs for Semi-Blind Channel Estimation in SIMO Single Carrier Cyclic Prefix Systems
Samir Omar (Eurecom, France); Dirk Slock (Eurecom, France); Oussama Bazzi (Lebanese University, Lebanon)

WACC-17: Relay Assisted Communications - II
Room: Harbour B
Chair: Mylene Pischella (CNAM & Conservatoire National des Arts et Metiers, France)

**Energy-Efficient Techniques Allowing Intra-link Errors for Block-Fading Multiple Access Relaying**
Pen-Shun Lu (University of Oulu, Finland); Tadashi Matsumoto (CWC - Oulu, Finland)

**Joint Power Allocation and Beamforming for Multiuser MIMO Two-way Relay Networks**
Mohammad G. Khafagy (Nile University, Egypt); Amr El-Keyi (Nile University, Egypt); Tamer ElBatt (Nile University, Egypt); Mohammed Nafie (Nile University & Cairo University, Egypt)

**Energy Efficiency Using Cooperative Relaying**
Tafzeel ur Rehman Ahsin (Royal Institute of Technology KTH, Sweden); Slimane Ben Slimane (KTH, Sweden)

**Joint Optimization of Power Allocation and Relay Position for Regenerative Relaying in the Presence of Co-Channel Interference**
Salama Said Ikki (INRS, Canada); Sonia Aissa (University of Quebec, INRS-EMT, Canada)

**Power Allocation for Two-Way Amplify-Forward Relaying with Receive Channel Knowledge**
Hossein Bagheri (University of Alberta, Canada); Masoud Ardakani (University of Alberta, Canada); Chinthu Tellambura (University of Alberta, Canada)

**WACC-18: MIMO Techniques - II**

Room: Harbour C
Chair: Raviraj Adve (University of Toronto, Canada)

**A computationally efficient multimode antenna selection algorithm for MIMO V-BLAST systems**
Chiao-En Chen (National Chung-Cheng university, Taiwan); Shin-Hua Huang (National Chung Cheng University, Taiwan)

**Low Complexity Soft-Output Signal Detector for Spatial-Multiplexing MIMO System**
Liang Liu (Lund University, Sweden); Johan Löfgren (Lund University, Sweden); Peter Nilsson (Lund University, Sweden)

**Modified Partial Euclidean Distance for Iterative Tree-Search MIMO Detection**
Till Wiegand (University of Bremen, Germany); Nils Heidmann (University of Bremen, Germany); Steffen Paul (University Bremen, Germany)

**Near-Capacity MIMO Subspace Detection**
Yejian Chen (Alcatel-Lucent, Bell Laboratories, Germany); Stephan ten Brink (Alcatel-Lucent, Bell Laboratories, Germany)

**WACC-19: Modulation and Coding - I**

Room: Pier 4
Chair: B. Sundar Rajan (Indian Institute of Science, India)

**Proposal of Cross-Carrier Precoding for Carrier Aggregation Enhancement**
Yuji Ikeda (KDDI R&D Laboratories Inc., Japan); Issei Kanno (KDDI R&D Laboratories Inc., Japan); Toru Kitayabu (KDDI R&D Laboratories Inc., Japan); Hiroyasu Ishikawa (KDDI R&D Laboratories Inc., Japan)

**Peak power reduction techniques for multi-channel SC-OFDM**
Fumihiro Hasegawa (Mitsubishi Electric Corporation, Japan); Akihiko Okazaki (Mitsubishi Electric Corporation, Japan); Hiroshi Kubo (Mitsubishi Electric Corporation, Japan)

**Performance Degradation of Turbo Coded Physical Layer Network Coding on the Two-Way Relay Channel**
Dong Fang (University of York, United Kingdom); Alister G. Burr (University of York, United Kingdom)
**Performance Analysis of Variable-Rate Adaptive Modulation for AF Opportunistic Relaying under Outdated CSI**
Mohammad Torabi (Ecole Polytechnique de Montreal, Canada); Jean-François Frigon (Ecole Polytechnique de Montreal and GERAD, Canada); David Haccoun (Ecole Polytechnique de Montréal, Canada)

**Cooperative Detection over Multiple Parallel Channels: a Principle Inspired by Nature**
Rudolf Mathar (RWTH Aachen University, Germany); Anke Schmeink (RWTH Aachen University, Germany)

**WNHC-5: WNHC - Technology, Applications & Services II**

**Remote Elderly Assisted Living System- A preliminary research, development and evaluation**
Mona Ghassemian (King's College London/ University of Greenwich, United Kingdom); Shah Auckburaully (University of Greenwich, United Kingdom); Maria Pretorius (University of Greenwich, United Kingdom); David Jai-Persad (University of Greenwich, United Kingdom)

**Classifier Fusion Framework using Genetic Algorithms**
Tejaswi Tamminedi (UtopiaCompression Corporation, USA); Priya Ganapathy (UtopiaCompression Corporation, USA); Lei Zhang (UtopiaCompression Corp., USA); Jacob Yadegar (UtopiaCompression Corporation, USA)

**A State Classification Method Based on Space-Time Signal Processing Using SVM for Wireless Monitoring Systems**
Jihoon Hong (Keio University, Japan); Tomoaki Ohtsuki (Keio University, Japan)

**Ranging Based on Maximum Likelihood Techniques for Ultra Wideband Medical Implants**
Muzaffer Kanaan (Erciyes University, Turkey)

**16:00 - 16:30**

**Coffee Break**

**16:30 - 17:30**

**AID-8: MAC and Higher Layer**

**Virtual Wireless Network Mapping: An Approach To Housing MVNOs On Wireless Meshes**
Gautam Bhanage (Aruba Networks, USA); Yanyong Zhang (Rutgers University, USA); Dipankar Raychaudhuri (Rutgers University, USA)

**Enhancement of Packetised-Preamble Based MAC Protocols: A Solution to Hidden-Node Problem in WSNs**
Sabrieh Choobkar (King's College London, United Kingdom); Reza Dilmaghani (King's College London, United Kingdom)

**An Efficient Measurement Report Mechanism for Long Term Evolution Networks**
Shih-Fan Chou (National Chiao Tung University, Taiwan); Hsi-Lu Chao (National Chiao Tung University, Taiwan); Chia-lung Liu (National Chung-Hsing University, Taiwan)

**CRSM-11: Signal Processing for Cognitive Radio**
**Room: Regatta**
Chair: Jacek Ilow (Dalhousie University, Canada)

**GSM Downlink Spectrum Occupancy Modeling**
Luís Mendes (Instituto de Telecomunicações, Portugal); Luís C Gonçalves (Telecommunications Institute, Portugal); Atilio Gameiro (Telecommunications Institute/Aveiro University, Portugal)

**UEP Framework in Multiresolution Modulation for Robust Image Broadcasting**
Hiten Datta (Dalhousie University, Canada); Jacek Ilow (Dalhousie University, Canada)

**CRSM-12: Opportunistic Spectrum Access**

**Room: Marine**
Chair: Ki Won Sung (Royal Institute of Technology (KTH), Sweden)

**On Discretizing the Exponential on-off Primary Radio Activities in Simulations**
Zheng Wang (National University of Singapore & Institute for Infocomm Research, Singapore); Yong Huat Chew (Institute for Infocomm Research, Singapore); Chau Yuen (Singapore University of Technology and Design, Singapore)

**Multi-rate Opportunistic Spectrum Access in Multi-hop Ad Hoc Networks**
Ari Raptino H (Shizuoka University, Japan); Masaki Bandai (Sophia University, Japan); Takashi Watanabe (Shizuoka University, Japan)

**Decentralized Coordinated Downlink Beamforming for Cognitive Radio Networks**
Harri Pennanen (University of Oulu, Finland); Antti Tölli (University of Oulu, Finland); Matti Latva-aho (OuOulu, Finland)

**ITN-3: ITS Networks and Networking Technologies**

**Room: Pier 2**
Chair: Luis M. Correia (IST - Technical University Lisbon, Portugal)

**On the Optimal MAC Layer Capacity of Delay Tolerant Mobile Ad Hoc Networks with a Finite Number of Nodes**
Spyros Vassilaras (Athens Information Technology, Greece); Ioannis Christou (Athens Information Technology, Greece)

**Using a symmetric game based in Volunteer’s Dilemma to improve Vanets multihop broadcast communication**
Filipe Maciel Roberto (Universidade Estadual do Ceará, Brazil); Joaquim Celestino Júnior (State University of Ceará, Brazil); Henning Schulzrinne (Columbia University, USA)

**Opportunistic Trajectory-based Routing for V2V Communications**
Huy Ngoc Dau (TELECOM ParisTech (Ex: ENST), France); Houda Labiod (TELECOM ParisTech (ex: ENST), France)

**LPAN-11: Physical Layer Design - 2**

**Room: Pier 8**
Chair: Annamalai Annamalai (Prairie View A&M University, USA)

**Mutual-Information Based Rate-Adaptation for Multi-User TH-IR-UWB coded system**
Gabriele Boccolini (Universidad de Valencia, Spain); Charly Poulliat (INP - ENSEEIHT Toulouse, France)

**A Space-Time Precoded Hybrid Beamforming Architecture for Broadband Transmissions in 60GHz Radio**
Yu-Hsiung Yin (National Chiao Tung University, Taiwan); Lin-Kai Chiu (National Chiao Tung University,
Computationally Efficient Implementation for Incremental Redundancy within Wireless Networks
Tallal Elshabrawy (The German University in Cairo, Egypt); Mottaz Elsharkawy (German University in Cairo, Egypt)

LPAN-12: Medium Access Control - 3
Room: Pier 9
Chair: Ben Liang (University of Toronto, Canada)

Efficient mm-Wave Beamforming Protocol for Group Environments
Jussi P Haapola (Centre for Wireless Communications, University of Oulu, Finland); Shuzo Kato (Tohoku University, Japan)

Resource Allocation in Optical Wireless Networks
Birendra Ghimire (Jacobs University Bremen, Germany); Harald Haas (The University of Edinburgh, United Kingdom)

Throughput of CSMA in eta-mu Fading Channels
Elvio Leonardo (State University of Maringa (UEM), Brazil); Michel Daoud Yacoub (State University of Campinas, Brazil)

SL-6: Secrecy Capacity of Wireless Communications
Room: Pier 3
Chair: Subir Biswas (University of Manitoba, Canada)

On the Ergodic Secrecy Rate of Multiple-Antenna Wiretap Channels Using Artificial Noise and Finite-Rate Feedback
Liang Sun (Research and Innovation Center, Alcatel-Lucent Shanghai Bell, Shanghai, P.R. China); Shi Jin (Southeast University, P.R. China)

Closed-form Approximations for Secrecy Capacity in Rayleigh-fading Multi-antenna Systems
Rongrong Qian (Beijing University of Posts and Telecommunications, P.R. China); Yuan Qi (Beijing University of Posts & Telecommunications, P.R. China); Wenbo Wang (Beijing University of Posts and Telecommunications, P.R. China); Jun Yang (Beijing University of Posts and Telecommunications, P.R. China)

Increasing Secrecy Capacity via Joint Design of Cooperative Beamforming and Jamming
Xinrong Guan (Institute of Communications Engineering, PLAUST, P.R. China); Cai Yueming (Institute of Communications Engineering, PLAUST, P.R. China); Yan Wang (Department of International Training, PLA University of Science and Technology, P.R. China); Weiwei Yang (Institute of Communications Engineering, PLAUST, P.R. China)

WACC-20: Diversity Techniques - II
Room: Harbour A
Chair: Mohammad Torabi (Ecole Polytechnique de Montreal, Canada)

Myopic Multi-Hop Transmission Strategies in Layered Wireless Networks
Maksym A. Girnyk (Royal Institute of Technology, Sweden); Lars K. Rasmussen (KTH Royal Institute of Technology, Sweden)

A simple optimal solution for relay assignment in cooperative systems based on the max-min criterion
Amir Minayi Jalil (University of Limoges, France); Vahid Meghdadi (University of Limoges, France); Ali Ghrayeb (Concordia University, Canada); Jean Pierre Cances (University of Limoges, France)
Outage Analysis of Hybrid-ARQ Protocols in Coherent Free-Space Optical Communications
Sahar Molla Aghajanzadeh (University of Waterloo, Canada); Murat Uysal (Ozyegin University, Turkey)

WACC-21: Cross Layer Design – II

Room: Harbour B
Chair: Chintha Tellambura (University of Alberta, Canada)

Four-Level UEP of H.264 Scalable Video Coding using Discrete Wavelet Transform
Andrew Morcos (German University in Cairo, Egypt); Tallal Elshabrawy (The German University in Cairo, Egypt)

Cross-Layer Dynamic Subcarrier Allocation in Multiuser OFDM System with MAC Layer Diverse QoS Constraints
Penghui Mi (University of Western Ontario, Canada); Xianbin Wang (The University of Western Ontario, Canada)

Cross-layer Dynamic Route Selection in Wireless Multiuser Two-hop Networks
Kamal Rahimi Malekshan (University of Tehran, Iran); Farshad Lahouti (University of Tehran, Iran)

WACC-22: Multiple Access Techniques - I

Room: Harbour C
Chair: Witold A. Krzymień (University of Alberta / TRLabs, Canada)

Successive Interference Cancellation Techniques for LTE Downlink
Johan Axnäs (Ericsson Research, Sweden); Y.-P. Eric Wang (Ericsson Research, USA); Matthias Kamuf (Ericsson Research, Sweden); Niklas Andgart (Ericsson Research, Sweden)

Impact of Receiver Interference Cancellation Techniques on the Base Station Power Consumption in MIMO Systems with Inter-Cell Interference
Ivan Ku (Heriot Watt University, United Kingdom); Chengxiang Wang (Heriot-Watt University, United Kingdom); John Thompson (University of Edinburgh, United Kingdom); Peter Grant (Edinburgh School of Engineering and Electronics, United Kingdom)

WACC-23: Routing and Scheduling - I

Room: Pier 4
Chair: Zhaoyang Zhang (Zhejiang University, P.R. China)

Towards Distributed and Dynamic Backpressure Routing for Wireless Mesh Networks
José Núñez-Martínez (Centre Tecnologic de Telecomunicacions de Catalunya, Spain); Josep Mangues-Bafalluy (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain); Marc Portoles-Comeras (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain)

Analysis of Deficit Round Robin Scheduling for Future Aeronautical Data Link
Serkan Ayaz (German Aerospace Center (DLR), Germany); Felix Hoffmann (German Aerospace Center (DLR), Germany); Reinhard German (Universitaet Erlangen-Nuernberg, Germany); Falko Dressler (University of Innsbruck, Austria)

Efficient Scheduling for Relay-Aided Broadcasting with Random Network Codes
Lu Lu (Georgia Institute of Technology, USA); Ming Xiao (Royal Institute of Technology, Sweden); Lars K. Rasmussen (KTH Royal Institute of Technology, Sweden); Mikael Skoglund (Royal Institute of Technology, Sweden)

WNHC-6: WNHC - MAC & Cross Layer Design II
Room: Pier 7  
Chair: Matti Latva-aho (UoOulu, Finland)

**A Power Efficient Pulsed MAC Protocol for Body Area Networks**  
David Layerle (Rochester Institute of Technology, USA); Andres Kwasinski (Rochester Institute of Technology, USA)

**Performance Benchmarking for Wireless Body Area Networks at 2.4 GHz**  
Yu Ge (Institute for Infocomm Research, Singapore); Jeng Wai Kwan (Institute for Infocomm Research, Singapore); Jaya Shankar Pathmasuntharam (Institute for Infocomm Research, Singapore); Zhengye Di (Nanyang Technological University, Singapore); Terence S.P. See (Institute for Infocomm Research, Singapore); Wei Ni (Institute for Infocomm Research, Singapore); Chee Wee Kim (Institute for Infocomm Research, Singapore); Tat Meng Chiam (Institute for Infocomm Research, Singapore); Maode Ma (Nanyang Technological University, Singapore)

**A Cooperative Transmission Scheme for Real-Time Data Gathering in a Wireless Body Area Network**  
Shinsuke Hara (Osaka City University, Japan); Daisuke Anzai (Osaka City University, Japan); Kentaro Yanagihara (Oki Electric Industry Co., Ltd., Japan); Kenichi Takizawa (National Institute of Information and Communications Technology, Japan); Kiyoshi Hamaguchi (NICT, Japan)

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**Wednesday, September 14**

**09:00 - 10:00**

**PL-3: Plenary Talks - Jalal Mapar and Riuji Kohno**

Room: Frontenac  
Plenary Talk by Industry Leaders: Jalal Mapar (Homeland Security) Riuji Kohno (NICT)

**10:00 - 10:30**

Coffee Break

**10:30 - 12:00**

**AID-9: Femtocell Systems III**

Room: Pier 5  
Chair: Marcelo S. Alencar (Federal University of Campina Grande, Brazil)

**Throughput and Fairness of Femtocell Users in OFDM Macrocell-Femtocell Networks**  
Poramate Tarasak (Institute for Infocomm Research, Singapore); Tony Q. S. Quek (Institute for Infocomm Research, Singapore)

**Optimization of Power Control Algorithm for Femtocells Based on Frame Utilization**  
Pavel Mach (Czech Technical University in Prague, Czech Republic); Zdenek Becvar (Czech Technical University in Prague, Czech Republic)

**Downlink Femto-Macro ICIC with Blind Long-Term Power Setting**  
Julien Guillet (Mitsubishi Electric Research Centre Europe, France); Loic Brunel (Mitsubishi Electric RCE, France); Nicolas Gresset (Mitsubishi Electric Research Centre Europe, France)

**User-vote Assisted Self-organizing Load Balancing for OFDMA Cellular Systems**  
Lexi Xu (Queen Mary, University of London, United Kingdom); Yue Chen (Queen Mary, University of London, United Kingdom); John Schormans (Queen Mary, University of London, United Kingdom); Laurie Cuthbert (Queen Mary, University of London, United Kingdom); Tiankui Zhang (Beijing
Distributed Pareto-Optimal Power Control in Femtocell Networks
Duy T Ngo (McGill University, Canada); Long Bao Le (University of Quebec, Canada); Tho Le-Ngoc (McGill University, Canada)

CRSM-13: Cognitive and Cooperative Radio Networks

Room: Regatta
Chair: Sebastian S Szyszkowicz (Carleton University, Canada)

A Novel Spectrum Aware Routing Scheme for Multi-hop Cognitive Radio Mesh Networks
Parvin Shamsad (The University of Electro-Communications & Fujii Laboratory, Japan); Takeo Fujii (The University of Electro-Communications, Japan)

Cognitive Relaying with Time Incentive: Protocol Design for Multiple Primary Users
Taskeen Ameer Nadkar (Indian Institute of Technology Bombay, India); Vinaykumar Mohanlal Thumar (Indian Institute of Technology, Bombay, India); Konchady Gautam Shenoy (IIT Bombay, India); Uday B Desai (IIT Hyderbad, India); Prof Merchant (IIT Bombay, USA)

An Efficient Pre-scanning Scheme for Handoff in Cooperative Vehicular Networks
Tin-Yu Wu (Tamkang University, Taiwan); Wei-Tsong Lee (Tamkang university, Taiwan); Fong-Hao Liu (National Defense University, Taiwan); Hung-Lin Chan (Tamkang University, Taiwan); Tsung-Han Lin (Tamkang University, Taiwan)

Outage in a Cellular Network Overlaid with an Ad hoc Network: The Uplink Case
Arshdeep S. Kahlon (Carleton University, Canada); Shalini Periyalwar (Carleton University, Canada); Halim Yanikomeroglu (Carleton University, Canada); Sebastian S Szyszkowicz (Carleton University, Canada)

Trust Computation Through Anomaly Monitoring in Distributed Cognitive Radio Networks
Shameek Bhattacharjee (University of Central Florida, USA); Saptarshi Debroy (University of Central Florida, USA); Mainak Chatterjee (University of Central Florida, USA)

CRSM-14: Performance Modeling and Analysis

Room: Marine
Chair: Kanshiro Kashiki (KDDI R&D Laboratories Inc., Japan)

Modeling and Performance Analysis of Cooperative Communications in Cognitive Radio Networks
Mehdi Khabazian (QUWIC, Qatar); Sonia Aissa (University of Quebec, INRS-EMT, Canada)

Further Results On the Performance of Energy Detector over Generalized Fading Channels
Oluwatobi O Olabiyi (Prairie View A&M University, USA); Annamalai Annamalai (Prairie View A&M University, USA)

Performance of Cognitive Radio Networks under ON/OFF and Poisson Primary Arrival Models
S. Lirio Castellanos-Lopez (Cinvestav-IPN, Mexico); Felipe A. Cruz-Pérez (Cinvestav-IPN, Mexico); Genaro Hernandez-Valdez (UAM-A, Mexico)

Capacity of Cognitive Radio under Imperfect Secondary and Cross Link Channel State Information
Lokman Sboui (Tunisia Polytechnic School - University of Carthage, Tunisia); Zouheir Rezki (King Abdullah University of Science and Technologie (KAUST), Saudi Arabia); Mohamed-Slim Alouini (KAUST, Saudi Arabia)

Performance based Channel Allocation in IEEE 802.22 Networks
Saptarshi Debroy (University of Central Florida, USA); Shameek Bhattacharjee (University of Central Florida, USA); Mainak Chatterjee (University of Central Florida, USA)
LPAN-13: Mobility and Resource Management

Room: Pier 8
Chair: Zoran Zvonar (Media Tek & MediaTek Wireless Technology, USA)

Channel Ranking Algorithm and Ranking Error Bounds: A Two Channel Case
Aamir Mahmood (Aalto University & School of Electrical Engineering, Finland); Konstantinos Koufos (TKK, Finland); Riku Jäntti (Aalto University School of Electrical Engineering, Finland)

Mobile WiMAX Video Quality and Transmission Efficiency
Victoria Sgardoni (University of Bristol & Technological Educational Institute of Chalkis Greece, United Kingdom); David Halls (University of Bristol, United Kingdom); Syed Mohsin Matloob Bokhari (University of Bristol, United Kingdom); David Bull (University of Bristol, United Kingdom); Andrew Nix (University of Bristol, United Kingdom)

Cross-Layer Interference Minimization-Oriented Channel Assignment in IEEE 802.11 WLANs
Dian Fan (University of Western Ontario, Canada); Xianbin Wang (The University of Western Ontario, Canada); Penghui Mi (University of Western Ontario, Canada)

Femtocell wireless time-variant stochastic channel modelling related to indoor human activity
Yoann Corre (SIRADEL, France); Mathieu Brau (SIRADEL, France); Yves Lostanlen (SIRADEL & University of Toronto, Canada)

Mobility Diversity in Mobile Wireless Networks
Veria Havary-Nassab (University of Toronto, Canada); Shahram Shahbazpanahi (University of Ontario Institute of Technology, Canada); Shahrokh Valaei (University of Toronto, Canada)

LPAN-14: Relaying and Cooperative Communication - 2

Room: Pier 9
Chair: Claude Oestges (Université Catholique de Louvain, Belgium)

Throughput Optimal Resource Management of Cooperative Networks with Mobile Clouds
Maria Kangas (Centre for Wireless Communication, University of Oulu, Finland); Savo Glisic (University of Oulu, Finland)

Performance Analysis of Cooperative Communication with Heterogeneous Relays
MinKeun Jeong (Yonsei University & Yonsei University, Korea); SeungGye Hwang (Yonsei, Korea); Dong Ku Kim (Yonsei University, Korea); Janghoon Yang (Korean German Institute of Technology, Korea)

Joint Optimization of HD Video Coding Rates and Unicast Flow Control for IEEE 802.11ad Relaying
Joongheon Kim (University of Southern California, USA); Yafei Tian (Beihang University, P.R. China); Andreas Molisch (University of Southern California, USA); Stefan Mangold (Disney Research, Switzerland)

Exact BEP of Cooperative MC-CDMA Systems using Selective Threshold Digital Relaying
Hela Hakim (Higher School of communications of Tunis, Tunisia); Hatem Boujemaa (Ecole Supérieure des Communications, Tunisia); Wessam Ajib (Université du Québec à Montréal, Canada)

Joint Relay Selection and Scheduling Algorithm for Inter-Piconet Communications in Millimeter Wave Wireless Personal Area Networks
Jen-Hsi Liu (National Chiao Tung University, Taiwan); Hsi-Lu Chao (National Chiao Tung University, Taiwan)

Panel 5: How to make Mobile Cellular Communications even Greener?

Chair: Luis M. Correia. Panelists: Mohamed Cheriet, Magnus Olsson, Matti Latva-aho, Roberto Fantini
Room: Frontenac
ABSTRACT: It is expected that the volume of data transmitted in mobile cellular networks will double each year in the next decade, which means that the energy consumption of these networks will also increase a lot. On the one hand, this increase puts obvious concerns, but on the other, it also means that there will be many other sectors reducing their CO2 footprint via an increased usage of ICT in general, and of mobile and wireless communications in particular. Still, the pressure to reduce the energy consumption in communications networks is already a current challenge, being addressed by many people in industry and academia, namely because it can contribute to reduce the cost of running a network. New technologies and solutions are being explored, and inputs to standards are already a reality. An overall perspective is required, ranging from equipment in base stations to network protocols, and encompassing radio resource management and network architectures, among many other areas. Furthermore, it may happen that the increase of user data rates or quality of experience may lead to an effective increase in energy consumption, which needs to be dealt with in a proper perspective. This panel will address these issues, tackling both near- and long-term views of the matter. 

Organizer: Luis M. Correia
Institution: IST/IT - Tech. Univ. Lisbon
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Panellists:
• Chair: Luis M. Correia (Professor, IST/IT – Technical University of Lisbon, Lisbon, Portugal)
• Mohamed Cheriet (Professor, École de Technologie Supérieure –University of Quebec, Montreal, Canada)
• Magnus Olsson (EARTH Project Technical Manager, Ericsson, Stockholm, Sweden)
• Matti Latva-aho (Professor, University of Oulu, Oulu, Finland)
• Roberto Fantini (Researcher, Telecom Italia Labs., Torino, Italy)

SL-7: Localization

Room: Pier 3
Chair: Nader Moayeri (NIST, USA)

Estimation of Prior Positioning Method Performance in LTE
Torbjörn Wigren (Ericsson AB, Sweden); Iana Siomina (Ericsson, Sweden); Michael C Anderson (Ericsson Inc., USA)

Anchorless Localization with Local Manifold Flattening
Dan C Popescu (CSIRO, Australia); Mark Hedley (CSIRO, Australia); Thuraiappah Sathyan (CSIRO, Australia)

AOD/AOA/TOA-based 3D Positioning in NLOS Multipath Environments
Xinning Wei (University of Rostock, Germany); Nico Palleit (University of Rostock, Germany); Tobias Weber (Uni Rostock, Germany)

Precoder Design for Improving the Performance of MUSIC-based Angle-of-Arrival Estimator
Li Zhang (National University of Singapore, Singapore); Yong Huat Chew (Institute for Infocomm Research, Singapore); Wai-Choong Wong (National University of Singapore, Singapore)

High Performance Non-Line-of-Sight Identification using MIMO-OFDM Space Frequency Correlation Statistics
Wenjie Xu (Michigan Technological University, USA); Seyed (Reza) Zekavat (Michigan Technological University, USA)

WACC-24: Cooperative Communication - III

Room: Harbour A
Chair: Shahram Shahbazpanahi (University of Ontario Institute of Technology, Canada)

In-band and out-band relaying configurations for dual-carrier LTE-Advanced system
Jacek Gora (Nokia Siemens Networks, Poland); Simone Redana (Nokia Siemens Networks, Germany)

Dynamic Decode and Forward for the Multi-Access Relay Channel with Finite Block Length
Chung-Pi Lee (National Taiwan University, Taiwan); Hsuan-Jung Su (National Taiwan University, Taiwan)

Symbol-Asynchronous Compute-and-Forward
Hossein Najafi (University of Waterloo, Canada); Mohamed Oussama Damen (University of Waterloo, Canada); Are Hjørungnes (University of Oslo, Norway)

Optimization of Random Selection and Forwarding for Multiple-Relay Networks
Ioannis Chatzigeorgiou (Lancaster University, United Kingdom); Alberto Tarable (Politecnico di Torino, Italy)
WACC-25: Radio Resource Management - III

Room: Harbour B
Chair: Rainer Schoenen (RWTH Aachen University, Faculty 6, Germany)

Wireless Mesh Networks: Energy - Capacity Tradeoff and Physical Layer Parameters
Anis Ouni (Université de Lyon, INRIA, INSA Lyon, CITI, France); Hervé Rivano (CNRS & Université de Lyon, INRIA, INSA Lyon, CITI, France); Fabrice Valois (INSA Lyon, France)

Network-Power-Saving Resource Allocation Algorithm with Hybrid Communication Mode for OFDMA Relay Networks
Jingon Joung (Institute for Infocomm Research, Singapore); Sumei Sun (Institute for Infocomm Research, Singapore)

Distributed Antenna Systems With Frequency Reuse
Hassan Osman (University of Kent, United Kingdom); Huiling Zhu (University of Kent, United Kingdom); Temitope Alade (University of Kent, United Kingdom)

Full Reuse Resource Partition for Multihop Relay Networks with Tree and Mesh Structures
Bin Fan (Orange Labs & French Telecom, France); Ahmed Saadani (Orange labs, France)

EVM Considerations for Convergent Multi-Standard Cellular Base-Station Transmitters
Sandeep Kowlgi (Institut Telecom - ENST & NXP Semiconductors, France); Paul Matthéijssen (NXP Semiconductors, The Netherlands); Berland Corinne (ESIEE Paris, Lamips NXP-CRISMAT Caen France, France); Timothy Ridgers (NXP Semiconductors, France)

WACC-26: Interference Management - II

Room: Harbour C
Chair: Mohammad Torabi (Ecole Polytechnique de Montreal, Canada)

MSE-Based Orthogonal Beamformer Design for Interference Alignment in a MU-MIMO Cellular Network
Mohammad Ali Torabi (École polytechnique de Montréal, Canada); Jean-François Frigon (Ecole Polytechnique de Montreal and GERAD, Canada); Christian Cardinal (Ecole Polytechnique de Montréal, Canada)

Optimal Degree of Freedom for MIMO Interference Channels with Constant Channel Coefficients
Sungkyu Jung (Seoul National University, Korea); Jungwoo Lee (Seoul National University, Korea)

Capacity Region of K-User Discrete Memoryless Interference Channels with a Mixed Strong-Very Strong Interference
Abhinav Ganesan (Indian Institute of Science, Bangalore, India); B. Sundar Rajan (Indian Institute of Science, India)

Generalized Precoder Design for MIMO Interference Channel Based on Interference Alignment
Huan Sun (Alcatel-Lucent Shanghai Bell Co., Ltd., P.R. China); Wei Fang (Alcatel-Lucent Shanghai Bell, P.R. China)

A Divide-and-Conquer Approach to Mitigate Relay-to-Relay Interference
Abdallah Bou Saleh (Nokia Siemens Networks & Aalto University School of Electrical Engineering, Germany); Ömer Bulakci (Nokia Siemens Networks Radio Systems & Aalto University School of Electrical Engineering, Germany); Simone Redana (Nokia Siemens Networks, Germany); Bernhard
WACC-27: Analysis, Simulation and Performance Evaluation - II

Room: Pier 2
Chair: Benoit Champagne (McGill University, Canada)

Symbol Error Rate Analysis of Relay-based Wireless Systems
Ibrahim Abualhaol (Simon Fraser University, Canada)

On the Performance Analysis of Cooperative Non-Regenerative Relay Systems over Generalized Fading Channels
Oluwatobi O Olabiyi (Prairie View A&M University, USA); Annamalai Annamalai (Prairie View A&M University, USA)

Outage Performance in Cooperative CDMA Systems over Nakagami-m Fading Channels
Ali Moftah Ali Mehemed (Concordia University, Canada); Walaa Hamouda (Concordia University, Canada)

Performance Analysis of Opportunistic Relaying Over Imperfect Non-identical Log-normal Fading Channels
Ashkan Kalantari (K. N. Toosi University of Technology, Iran); MohammadAli Mohammadi (K.N.Toosi University of Technology, Iran); Mehrdad Ardebilipour (Khajeh Nasir university, Iran)

WACC-28: Routing and Scheduling - II

Room: Pier 4
Chair: Witold A. Krzymień (University of Alberta / TRLabs, Canada)

LTE Frequency Selective Scheduling Performance and Improvements
Peter Ökvist (Ericsson Research, Sweden); Arne Simonsson (Ericsson, Sweden); Henrik Asplund (Ericsson Research, Ericsson AB, Sweden)

User Scheduling Scheme for Network MIMO System with Feedback Reduction
Wen Chunyan (Zhejiang University, P.R. China); Zhaoyang Zhang (Zhejiang University, P.R. China); Rui Yin (Zhe Jiang University, P.R. China); Chao Wang (Zhejiang University, P.R. China)

Cell-Grouping Based Distributed Beamforming and Scheduling for Multi-cell Cooperative Transmission
Xueying Hou (Beihang University, P.R. China); Emil Björnson (KTH Royal Institute of Technology, Sweden); Chenyang Yang (Beihang University, P.R. China); Mats Bengtsson (Royal Institute of Technology, Sweden)

Multiuser Hybrid Switched-Selection Diversity Systems
Mohammad Shaqfeh (Texas A&M University at Qatar, Qatar); Hussein Alnuweiri (Texas A&M University, Qatar); Mohamed-Slim Alouini (KAUST, Saudi Arabia)

WNHC-7: WNHC - Wireless Sensor Networks & MANET

Room: Pier 7
Chair: Allen Levesque (Worcester Polytechnic Institute, USA)

X-Geocasting: Data Dissemination to Mobile Sink Groups in Wireless Sensor Networks
Soochang Park (Chungnam National University, Korea); Euisin Lee (Chungnam National University, Korea); Yongbin Yim (Chungnam National University, Korea); Fucai Yu (University of Electronic Science and Technology of China, P.R. China); Sang-Ha Kim (Chungnam National University, Korea)

Data Dissemination Protocol based on Independent Grid Structure in Wireless Sensor Networks
Energy Efficient Data Dissemination Protocol for a Mobile Sink Group in WSNs
Hee-Sook Mo (ETRI, Korea)

Weighted Sum-Rate Maximization in Singlecast and Multicast Wireless Networks - Global Optimum via Branch and Bound
Marian Codreanu (University of Oulu, Finland); Pradeep Chathuranga Weeraddana (University of Oulu, Finland); Matti Latva-aho (UoOulu, Finland); Anthony Ephremides (University of Maryland at College Park, USA)

Social Mobility Models using Ant Colony Systems
Leila Harfouche (Cnam/ Cedric Laboratory, France); Hervé Costantini (Conservatoire National des Arts et Métiers, France); Selma Boumerdassi (Conservatoire National des Arts et Métiers, France)

12:00 - 13:30
Lunch
Room: Frontenac

13:30 - 15:00
AID-10: Self-Configuration Techniques
Room: Pier 5
Chair: Tony Q. S. Quek (Institute for Infocomm Research, Singapore)

Self-organized Network Management functions for Relay enhanced LTE-Advanced Systems
Konstantinos Samdanis (NEC Europe Ltd., Germany); Marcus Brunner (NEC Europe Ltd., Germany)

Lúcio Studer Ferreira (Instituto Superior Tecnico, Technical University of Lisbon, Portugal); Luis M. Correia (IST - Technical University Lisbon, Portugal)

Self-Configuring Switched Multi-Element Antenna System for Interference Mitigation in Femtocell Networks
Rouzbeh Razavi (Bell labs, Ireland); Holger Claussen (Bell Labs, Alcatel-Lucent, United Kingdom)

Base Station distributed Handover Optimization in LTE Self-Organizing Networks
Lutz Ewe (Bell Labs & Alcatel-Lucent, Germany); Hajo Bakker (Alcatel-Lucent Bell Labs Germany, Germany)

Cost and Feasibility Analysis of Self-deployed Cellular Network
Du Ho Kang (Royal Institute of Technology (KTH), Sweden); Ki Won Sung (Royal Institute of Technology (KTH), Sweden); Jens Zander (Royal Institute of Technology (KTH), Sweden)

AID-11: Frequency Re-Use/Cellular System Techniques
Room: Pier 9
Chair: Alagan Anpalagan (Ryerson University, Canada)

Adaptive Flexible Spectrum Usage Algorithms in Heterogeneous Cell Deployment
Joao Mestre (Aalborg University, Denmark); Nuno Pratas (Center for TeleInFrastructure (CTIF), Aalborg University & Instituto de Telecomunicações, Instituto Superior Técnico, Denmark); Neeli Rashmi Prasad (Center for TeleInFrastructure (CTIF), Denmark); António J. Rodrigues (IT / Instituto
A Spatial Study of Mixed Wireless and Wireline Heterogeneous Networks
Hsin-Yeh Chen (Academia Sinica, Taiwan); Chia-han Lee (Academia Sinica, Taiwan)

A Performance Evaluation Framework for Control Loop Interaction in Self Organizing Networks
Xavier Gelabert (Orange Labs, France); Berna Sayrac (Orange Labs, France); Sana Ben Jemaa (France Telecom Research and Development Division, France)

Efficiency of Partial Frequency Reuse in Power Used Depending on User’s Selection for Cellular Networks
Bujar Krasniqi (Vienna University of Technology, Austria); Christoph F Mecklenbräuker (Vienna University of Technology, Austria)

Adaptive Handoff Initiation Method for Improving Throughput in Data-Oriented Communications Networks
Hsien-Wen Chang (Industrial Technology Research Institute, Taiwan); Li-Chun Wang (National Chiao Tung University, Taiwan)

CRSM-15: Cognitive Radio Performance
Room: Regatta
Chair: Chintha Tellambura (University of Alberta, Canada)

On Adaptive Modulation and Power Control for Cognitive Radios with Primary User Outage Constraint
Chin Choy Chai (Institute for Infocomm Research, Singapore); Yong Huat Chew (Institute for Infocomm Research, Singapore)

Performance of a Sensor Network Aided Cognitive Radio System
Pål R Grønsund (Telenor & Simula Research Laboratory, Norway); Ole Grendalen (Telenor, Norway)

Performance of Cooperative Spectrum Sensing with Correlated Cognitive Users’ Decisions
Lamiaa R. Khalid (Ryerson University, Canada); Alagan Anpalagan (Ryerson University, Canada)

Aggregate Interference and System Performance in Finite Area Cognitive Radio Networks
Luxmiram Vijayandran (Norwegian University of Science and Technology (NTNU), Norway); Prathapasinghe Dharmawansa (Hong Kong University of Science and Technology, Hong Kong); Torbjorn Ekman (Norwegian University of Science and Technology, Norway); Chintha Tellambura (University of Alberta, Canada)

Controlling the interference from multiple secondary systems at the TV cell border
Konstantinos Koufos (TKK, Finland); Kalle Ruttik (Aalto University, Finland); Riku Jäntti (Aalto University School of Electrical Engineering, Finland)

CRSM-16: Cognitive Radio Resource Management
Room: Marine
Chair: Nandana Rajatheva (University of Oulu, Finland)

Spectrum Markets for Service Provider Spectrum Trading with Reinforcement Learning
Nadeem Abji (University of Toronto, Canada); Alberto Leon-Garcia (University of Toronto, Canada)

Cooperative Game Theory and Auctioning for Spectrum Allocation in Cognitive Radios
Jayaprakash Rajasekharan (Aalto University, Finland); Jan Eriksson (Aalto University School of Science and Technology, Finland); Visa Koivunen (Helsinki University of Technology, Finland)

Weighted Sum Rate Maximization in the Underlay Cognitive MISO Interference Channel
Laurent Gallo (Politecnico di Torino, Italy); Francesco Negro (EURECOM, France); Irfan Ghauri
Panel 6: Mobile Internet for the Emerging Economies

Chair: Sudhir Dixit, Panelists: Roch Glitho, Catherine Rosenberg, Hussein Mouftah, Matti Latva-aho, Vino Vinodrai
Room: Harbour B

ABSTRACT: This panel aims at discussing the recent advances and strategies in developing mobile and wireless technologies for Internet access using mobile phones to meet the unique requirements of the developing countries. Because of the poor or nonexisting wireline access infrastructure and the huge growth in mobile subscriptions, these countries are well-positioned to go through a period of significant growth in broadband mobile access, and are likely to skip the wired broadband access altogether. In this panel, the experts demystify if the requirements in the emerging economies are really different from those in the developed economies, and if so, how these are being addressed in the various standards bodies, who the key players are, and how the future mobile Internet designers and developers should take those into consideration. The stakes are quite high since by year 2015 there would be over 4 billion mobile users in the developing countries alone with the fastest growth rate of the wireless broadband Internet. Although the panel also addresses the policy and strategy issues in many of these countries, a central question that would be deliberated is to what extent the Future Mobile Internet as conceived today in ETSI, ITU, and the various industry fora, is driven by the requirements of these countries. A more provocative question is: Whether these organizations are even aware of and making efforts to ensure that the unique requirements of the vast majority of these users are taken into consideration – after all these are going to be the largest growth markets!

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SL-8: Cooperative Localization Methods

Room: Pier 3
Chair: Iana Siomina (Ericsson, Sweden)

A Particle Filtering Algorithm for Cooperative Tracking of Nodes in Wireless Networks
Thuraiappah Sathyan (CSIRO, Australia); Mark Hedley (CSIRO, Australia)

Cooperative TDOA Estimation with Trigger Relay
Hao Lu (Delft University of Technology & Jilin University, The Netherlands); Pablo Martinez (Delft University of Technology, The Netherlands); Homayoun Nikookar (Delft University of Technology, The Netherlands)

Cooperative Network Localizability via Semidefinite Programming
Hadi Noureddine (Telecom Bretagne, France); Damien Castelain (Mitsubishi Electric MERC France, France); Ramesh Mahendra Pyndiah (Institut Telecom/TELECOM Bretagne, France)

Cooperative Geo-location in Underground Mines: A Novel Fingerprint Positioning Technique Exploiting Spatio-Temporal Diversity
Shehadi Dayekh (INRS-EMT, Canada); Sofiene Affes (INRS-EMT, Canada); Nahi Kandil (Université du Québec en Abitibi-Temiscamingue, Canada); Chahe Nerguizian (Ecole Polytechnique, Canada)

WACC-29: Channel Modeling, Estimation and Equalization - III

Room: Harbour A

Robust Training Sequence Design for Spatially Correlated MIMO Channels and Arbitrary Colored Disturbance
Nafiseh Shariati (KTH Royal Institute of Technology, Sweden); Mats Bengtsson (Royal Institute of Technology, Sweden)

Second-Order Moment-Based Direction Finding of a Single Source for ULA systems
Faouzi Bellili (Institut national de la recherche scientifique, Canada); Sofiene Affes (INRS-EMT, Canada); Alex Stéphenne (Huawei & INRS-EMT, Canada)

Hybrid Time/Frequency Domain Compensator for RF Impairments in OFDM Systems
Adnan Kiayani (Tampere University of Technology, Finland); Lauri Anttila (Tampere University of Technology, Finland); Yaning Zou (Tampere University of Technology, Finland); Mikko Valkama (Tampere University of Technology, Finland)

Channel Reciprocity of Compact Antenna Array and the Calibration
Jing Shi (Alcatel-Lucent Shanghai Bell Co., Ltd, P.R. China); Luo (Alcatel Lucent, P.R. China); Huan Sun (Alcatel-Lucent Shanghai Bell Co., Ltd., P.R. China)

Wideband MIMO Channel Diagonalization in the Time Domain
Rasmus Brandt (KTH Royal Institute of Technology, Sweden); Mats Bengtsson (Royal Institute of Technology, Sweden)

WACC-30: Relay Assisted Communications - III

Room: Harbour C
Chair: Salameh Said Ikki (Islamic University of Gaza, Israel)

Error Probability Analysis of Two-Way Amplify-and-Forward Relaying in the Presence of Imperfect Channel Estimations
Salama Said Ikki (INRS, Canada); Sonia Aissa (University of Quebec, INRS-EMT, Canada)

Outage Probability of Dual-Hop Partial Relay Selection with Feedback Delay in the Presence of Interference
Performance Analysis of SC-FDMA in the Presence of Receiver Phase Noise
Gokul Sridharan (University of Toronto, Canada); Teng Joon Lim (National University of Singapore, Singapore)

Fairness Analysis in Cellular Networks using Stochastic Petri Nets
Rainer Schoenen (RWTH Aachen University, Faculty 6, Germany); Akram Bin Sediq (Carleton University, Canada); Halim Yanikomeroglu (Carleton University, Canada); Gamini Senarath (Huawei Technologies Canada CO., LTD., Canada); Zhijun Chao (Huawei Technologies, P.R. China)

WACC-31: MIMO Techniques - III
Room: Pier 2
Chair: Liang Liu (Lund University, Sweden)

On Optimum End-to-End Distortion in Delay-Constrained Wideband MIMO Systems
Jinhui Chen (Alcatel-Lucent Shanghai Bell, P.R. China); Dirk Slock (Eurecom, France)

Adaptive Beamforming Algorithms for Wireless Link Layer Multicasting
Mohammad Khojastepour (NEC Laboratories America, USA); Amin Khajehnejad (Caltech, USA); Karthikeyan Sundaresan (NEC Labs America, USA); Sampath Rangarajan (NEC Labs America, USA)

SCSI Aided Multi-Beam Selection for Transmit Correlated Channels
Qiang Sun (Southeast University, P.R. China); Rui Liu (Southeast University, P.R. China); Yuan Zhang (Southeast University, P.R. China); Jue Wang (National Mobile Communications Research Laboratory, P.R. China); XiQi Gao (Southeast University, P.R. China)

Performance of LTE in Rural Areas - Benefits of Opportunistic Multi-User MIMO
Imran Latif (Eurecom Institute & Telecom ParisTech, France); Florian Kaltenberger (Eurecom, France); Rizwan Ghaffar (University of Waterloo, Canada); Raymond Knopp (Institut Eurecom, France); Dominique Nussbaum (Eurecom, France); Hervé Callewaert (Eurecom, France); Gaël Scot (CNES, France)

Improving Downlink Multiuser MIMO Throughput in LTE-Advanced Cellular Systems
Guosen Yue (NEC Laboratories America, Inc., USA); Narayan Prasad (NEC Labs America, Princeton, USA); Meilong Jiang (NEC Labs America, USA); Mohammad Khojastepour (NEC Laboratories America, USA); Sampath Rangarajan (NEC Labs America, USA)

WACC-32: Modulation and Coding - II
Room: Pier 4
Chair: Robert J.C. Bultitude (Communications Research Centre, Canada)

On the Performance of Hybrid-ARQ with Code Combining over Double Rayleigh Fading Channels
Ali Chelli (University of Agder, Norway); Matthias Pätzold (University of Agder, Norway)

Igor Gutman (Ben-Gurion University of the Negev, Israel); Dov Wulich (Ben Gurion University, Israel)

Completion Delay Reduction in Lossy Feedback Scenarios for Instantly Decodable Network Coding
Sameh Sorour (University of Toronto, Canada); Shahrokh Valaee (University of Toronto, Canada)

Novel Approximation for the Gaussian $Q$-Function and Related Applications
Qinghua Shi (University of Electro-Communications, Japan)

WACC-38: Multiuser and Cooperation
Room: Pier 7
Chair: Igor Dotlic (National Institute of Information and Communications Technology, Japan)

Reverse Link Sum Rate for Multi-Cell Multi-User Cellular Systems with Successive Interference Cancelation
Qiuping Huang (Beijing University of Posts and Telecommunications, P.R. China); Xiaofeng Liu (China Academy of Telecommunications Research, MITT, P.R. China); Hongwen Yang (Beijing University of Posts and Telecommunications, P.R. China)

Multi-User Cross-Layer Optimization for Delay-Sensitive Applications Over Wireless Multihop Mesh Networks
Alaa Awad (Cairo Univ, Egypt); Omar Nasr (Cairo University, Egypt); Mohamed Khairy (Assoc Prof, Cairo Univ & Cairo Univ, Egypt)

Joint Cooperative Scheduling and Power Control for Interference-Limited Wireless Networks
Long Bao Le (University of Quebec, Canada); Tho Le-Ngoc (McGill University, Canada)

Controlling Variability of Dynamic RRM in Relay Enhanced OFDMA-Based Networks
Mikhail Pikhletsy (Huawei Technologies, Russia); Farid Khafizov (Huawei Technologies, USA); Jietao Zhang (Huawei Technologies Co., Ltd., P.R. China); Hongcheng Zhuang (Huawei Technologies Co., Ltd, P.R. China)

15:00 - 15:30
Coffee Break

15:30 - 17:00
AID-12: Cooperative Techniques

Room: Pier 5
Chair: Raviraj Adve (University of Toronto, Canada)

Metrics for Optimal Relay Selection in Cooperative Wireless Networks
Rasool Sadeghi (University of Aveiro & Instituto de Telecomunicações, Portugal); João Paulo Barraca (University of Aveiro & Instituto de Telecomunicações, Portugal); Rui L Aguiar (University of Aveiro & Instituto de Telecomunicações, Portugal)

Cooperation and Competition between Wireless Networks in Shared Spectrum
Du Ho Kang (Royal Institute of Technology (KTH), Sweden); Ki Won Sung (Royal Institute of Technology (KTH), Sweden); Jens Zander (Royal Institute of Technology (KTH), Sweden)

Marcelo Portela Sousa (Federal University of Campina Grande, Brazil); Waslon Terllizzie Araujo Lopes (UFCG - Federal University of Campina Grande & IECOM - Institute for Advanced Studies in Communications, Brazil); Marcelo S. Alencar (Federal University of Campina Grande, Brazil)

Energy Efficient Cooperative Strategies in Hybrid Aerial-Terrestrial Networks for Emergencies
Sithamparanathan Kandeepan (RMIT University, Australia); Karina Mabell Gomez (Create-Net & The University of Trento, Italy); Tinku Rasheed (Create-Net Research, Italy); Laurent Reynaud (Orange Labs, France)

Consensus-based decentralization of interior point methods for heterogeneous networks energy saving
Mourad Khanfouci (Mitsubishi electric research center Europe (MERCE), France); Nicolas Gresset (Mitsubishi Electric Research Centre Europe, France)

CRSM-17: Cognitive Radio and HetNet Performance
Room: Regatta
Chair: Muhammad Imadur Rahman (Ericsson Research, Sweden)

Interference and Performance Analysis for Cognitive Adhoc Network with Relay Assisted Primary Link
Uditha L. Wijewardhana (Asian Institute of Technology, Thailand); Nandana Rajatheva (University of Oulu, Finland); Matti Latva-aho (UoOulu, Finland)

Symbol Error Rate Analysis in Multiuser Underlay Cognitive Radio Systems
Liang Li (Technische Universität Darmstadt, Germany); Philemon Ivan Derwin (Technische Universität Darmstadt, Germany); Marius Pesavento (Technische Universität Darmstadt, Germany)

Experimental and Analytical Study regarding Transmission Quality of Wireless LAN System - for implementation of heterogeneous wireless network -
Kanshiro Kashiki (KDDI R&D Laboratories Inc., Japan); Akira Yamaguchi (KDDI R&D Laboratories Inc., Japan)

Performance of Neural Network Based Distributed Radio Resource Usage Optimization Algorithms in Realistic Heterogeneous Wireless Networks
Mikio Hasegawa (Tokyo University of Science, Japan); Kentaro Ishizu (National Institute of Information and Communications Technology, Japan); Homare Murakami (National Institute of Information and Communications Technology, Japan); Hiroshi Harada (National Institute of Information & Communications Technology (NICT), Japan)

15:30 - 17:20

CRSM-18: Spectrum Sensing, Access and Management

Room: Marine
Chair: Tony Q. S. Quek (Institute for Infocomm Research, Singapore)

Distributed Compressed Sensing for Block-sparse Signals
Xing Wang (Beijing University of Posts and Telecommunications, P.R. China); Guo Wenbin (Beijing University of Posts and Telecommunications, P.R. China); Yang Lu (Beijing University of Posts and Telecommunications, P.R. China); Wenbo Wang (Beijing University of Posts and Telecommunications, P.R. China)

A Primary Traffic Aware Opportunistic Spectrum Sensing for Cognitive Radio Networks
Fan Zhang (the Hong Kong University of Science & Technology, Hong Kong); Wei Wang (Zhejiang University, P.R. China); Zhaoyang Zhang (Zhejiang University, P.R. China)

An Autoregressive Approach for Spectrum Occupancy Modeling and Prediction Based on Synchronous Measurements
Ali Gocin (USF, USA); Hasari Celebi (Gebze Institute of Technology, Turkey); Khalid A. Qaraqe (Texas A&M University at Qatar, USA); Huseyin Arslan (University of South Florida, USA)

Performance Evaluation of Secondary Users in Dynamic Spectrum Access System
Huang Qing (Beijing jiaotong University, P.R. China); Shaoyi Xu (Beijing Jiaotong University, P.R. China); Xiaojun Jin (Beijing Jiaotong University, P.R. China)

15:30 - 17:00

ITN-4: Radio Technologies, ITS Communications

Room: Pier 2
Chair: Yaser P. Fallah (West Virginia University, USA)

NEMO Route Optimization with Strong Authentication for Aeronautical Communications
Christian Bauer (German Aerospace Center (DLR), Germany)

On the Single-Target Accuracy of OFDM Radar Algorithms
Martin Braun (Karlsruhe Institute of Technology (KIT), Germany); Christian Sturm (Karlsruhe Institute of Technology (KIT), Germany); Friedrich K. Jondral (Karlsruhe Institute of Technology, Germany)

Extending the DSRC's Control Channel using Cognitive Networking Concepts and Fuzzy Logic
Ali J. Ghandour (American University of Beirut, Lebanon); Kassem Fawaz (American University of Beirut, Lebanon); Hassan A. Artail (American University of Beirut, Lebanon); Ramsey Hamade (American University of Beirut, Lebanon)

Infrastructure-to-Vehicle Cooperative Communications with Decode-and-Forward Relaying
Mohamed F. Feteih (University of Waterloo, Canada); Murat Uysal (Ozyegin University, Turkey)

WACC-33: Multiple Access Techniques - II
Room: Harbour A
Chair: Tallal Elshabrawy (The German University in Cairo, Egypt)

Sum MSE Optimization for Downlink Multiuser MIMO Systems with per Antenna Power Constraint: Downlink-Uplink Duality Approach
Tadilo Endeshaw Bogale (University of Catholique de Louvain, Belgium); Luc Vandendorpe (University of Louvain, Belgium)

Application of Telser's Safety-First Criterion to Adaptive Power Control
Adrian Kotelba (VTT Technical Research Centre of Finland, Finland); Aarne O Mämmelä (VTT, Finland)

Adaptive Bit Allocation Methods for Multi-cell Joint Processing Systems with Limited Feedback
Seungpyo Yu (Korea University & Samsung Electronics, Korea); Young-Tae Kim (Korea University, Korea); Seok-Hwan Park (Korea University, Korea); Inkyu Lee (Korea University, Korea)

A Constellation Power Allocation Scheme for Two-User Gaussian MAC
J. Harshan (Broadcom Communications Technologies, India); B. Sundar Rajan (Indian Institute of Science, India)

Adaptive Differential Feedback in Time-Varying Multiuser MIMO Channels
Muhammad Nazmul Islam (WINLAB, Rutgers University, USA); Raviraj Adve (University of Toronto, Canada)

WACC-34: Antenna and Propagation
Room: Harbour B
Chair: Ali Chelli (University of Agder, Norway)
Controlling Coupling Between Two Transmitting Antennas for MIMO Handset Applications
Shirook Ali, Dr. (Research In Motion Ltd., Canada); James Warden (Research In Motion, Texas, USA)

Modelling, Measurement and Analysis of Narrowband Fast Fading on Relay Channels
Georgy Levin (University of Ottawa, Canada); Robert J.C. Bultitude (Communications Research Centre, Canada); Hong Zhu (Communications Research Centre, Canada)

Design of RF/Microwave Efficient Buildings Using Frequency Selective Surface
Irfan Ullah (Edith Cowan University, Australia)

Spectral Efficiency Analysis of Distributed Antenna System for In-Building Wireless Communication
Temitope Alade (University of Kent, United Kingdom); Huiling Zhu (University of Kent, United Kingdom); Hassan Osman (University of Kent, United Kingdom)

WACC-35: Modulation and Coding - III

Room: Harbour C
Chair: Tadashi Matsumoto (CWC - Oulu, Finland)

Heuristic Approach to Construct Three-Dimensional Codes for Feedback-Based MIMO-CDMA
Yuya Hayashi (Kochi University of Technology, Japan); Masanori Hamamura (Kochi University of Technology, Japan)

FPGA Design of a Truncated SVD Based Receiver for the detection of SEFDM Signals
Ryan C Grammenos (University College London, United Kingdom); Safa Isam (University College London, United Kingdom); Izzat Darwazeh (University College London, United Kingdom)

Linear Dispersion Codes Design for Asynchronous Cooperative Communications
Wenjin Wang (University of Reading, United Kingdom); Fu-Chun Zheng (The University of Reading, United Kingdom)

Cyclic Prefix and Intra-fix Insertion for Multi-h CPM based on Tilted Phase Transformation
Sajid Saleem (Georgia Institute of Technology, USA); Gordon Stüber (Georgia Institute of Technology, USA)

WACC-36: Field Tests and Measurements

Room: Pier 3
Chair: Yejian Chen (Alcatel-Lucent, Bell Laboratories, Germany)

Large Scale Field Trial Results on Time Domain Compression for Uplink Joint Detection
Michael Grieger (Technische Universität Dresden, Germany); Gerhard Fettweis (Technische Universität Dresden, Germany)

Radio Propagation Measurements and Channel Characterisation Pertinent to Urban Microcellular Communications Systems Incorporating Relay Links
Robert J.C. Bultitude (Communications Research Centre, Canada); Georgy Levin (University of Ottawa, Canada); Hong Zhu (Communications Research Centre, Canada)

Field Trial Results for Integrated WiMAX and Radio-over-Fiber Systems on High Speed Rail
Hsien-Wen Chang (Industrial Technology Research Institute, Taiwan); Ming-Chien Tseng (Industrial Technology Research Institute, Taiwan); Shi-Yang Chen (Industrial Technology Research Institute, Taiwan); Ming-Hung Cheng (Industrial Technology Research Institute, Taiwan); Sz-Kai Wen (Industrial Technology Research Institute, Taiwan)

WACC-37: Wireless IP and Multimedia Services
Room: Pier 4
Chair: Ivan Vukovic (Nokia Siemens Networks, USA)

**Optimization of rateless-coded asynchronous multimedia multicast**
Yu Cao (Queen's University, Canada); Steven D Blostein (Queen's University, Canada); Wai-Yip Geoffrey Chan (Queen's University, Canada)

**CSoHS Voice Capacity in HSPA networks with realistic overhead channel modeling**
Pavan Kumar Vitthaladevuni (Qualcomm Inc., USA); Rohit Kapoor (Qualcomm Inc., USA); Ozcan Ozturk (Qualcomm, USA); Wei Zeng (Qualcomm, USA)

**Application-centric Content Delivery Schemes for Future Wireless Networks**
Pietro Lungaro (Royal Institute of Technology (KTH), Sweden); Zary Segall (UMBC, USA)

**Dynamic Power Allocation for Multicast/Broadcast Services with Cooperative Distributed Antenna Systems**
Ping-Heng Kuo (Industrial Technology Research Institute, Taiwan); Pangan Ting (Tsing Hua University, Taiwan)