

The 8th IEEE International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob 2012)

Barcelona, Spain, October 8-10, 2012

Program Schedule

Monday, October 8, 2012				Tuesday, October 9, 2012				Wednesday, October 10, 2012			
Time	Aula 10	Aula 11	Aula 13	Time	AM ²	11	13	Time	AM ²	11	13
8:30	<i>Registration in Hall¹</i>			8:30	<i>Registration in Hall¹</i>			8:30	<i>Registration in Hall¹</i>		
9:00	PEMOS1	WMSN1	CNBuB1	9:00	<i>Opening (A. Magna)</i>			8:45	<i>Keynote 2 (A. Magna)</i>		
10:30	<i>Coffee Break</i>			9:30	<i>Keynote 1 (A. Magna)</i>			9:40	<i>Keynote 3 (A. Magna)</i>		
11:00	PEMOS2	WMSN 2	CNBuB2	10:30	<i>Coffee Break</i>			10:30	<i>Coffee Break</i>		
13:00	<i>Lunch</i>			11:00	S1	S2	S3	11:00	S10	S11	S12
14:30	VECON1	STWimob1	STWimob2	13:00	<i>Lunch</i>			13:00	<i>Lunch</i>		
16:30	<i>Coffee Break</i>			14:30	S4	S5	S6	14:30	S13	S14	S15
17:00	VECON2	STWimob3	STWimob4	16:30	<i>Coffee Break</i>			17:00	<i>Coffee Break</i>		
18:30	<i>Welcome Cocktail</i>			17:00	S7	S8	S9				
				20:30	<i>Conference Banquet</i>						

¹Registration will be open until 13:00.

²Aula Magna.

Session

S1:	Wireless Sensor Networks I
S2:	Handoff Management
S3:	OFDM and CDMA Technologies and Systems
S4:	Context-Aware Systems/Vanets
S5:	Wireless Sensor Networks II
S6:	Modulation and Coding
S7:	Energy Efficient Protocols for Wireless Networks
S8:	Wireless Mesh Networks
S9:	Cellular Systems I
S10:	Opportunistic Networks and DTN
S11:	Algorithms and Models
S12:	Cognitive Radio
S13:	Security, Privacy and Location Aware Applications
S14:	Cellular Systems II
S15:	Cooperative Networks and MIMO Channels

Track

Wireless Networking, Mobility and Nomadicity
Wireless Networking, Mobility and Nomadicity
Wireless Communications
Ubiquitous Computing, Services and Applications
Wireless Networking, Mobility and Nomadicity
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Ubiquitous Computing, Services and Applications
Wireless Communications
Wireless Communications

Instructions for presenters

- Please go to the session room 5 minutes before the session starts and provide the Session Chair with a printed short biography (2-3 lines).
- Take with you an USB with your presentation and upload it in the PC of the session room.

DAY 1 (Monday, October 8, 2012) - Workshops

PEMOS 1: 3rd International Workshop on the Performance Enhancements in MIMO-OFDM Systems (Aula 10 - 9:00-10:30)

Chair: Shihab Jimaa (Khalifa University, UAE)

1. **Resource Allocation Scheme for MIMO-OFDMA Systems with Proportional Fairness Constraints**
Mohammed Ali (KFUPM, Saudi Arabia); Samir Al-Ghadhban (KFUPM, Saudi Arabia); Ashraf Mahmoud (KFUPM, Saudi Arabia)
2. **Outage performance analysis and optimization of OFDM-based relaying protocols**
Nassar Ksairi (HIAST, Syria)
3. **Performance of Space Time Trellis Code Using Fading Channel**
Muhammad Ehsan ul Haq (National University of Modern Languages, Pakistan)

WMSN 1: 1st Workshop on Wireless Multimedia Sensor Networks (Aula 11 - 9:00 - 10:30)

Chair: Jose M. Barcelo-Ordinas (Universitat Politècnica de Catalunya, Spain)

1. **QoV: Assessing the Monitoring Quality in Visual Sensor Networks**
Daniel G. Costa (State University of Feira de Santana, Brazil); Luiz Affonso Guedes (Federal University of Rio Grande do Norte, Brazil); Francisco Vasques (University of Porto, Portugal); Paulo Portugal (University of Porto, Portugal)
2. **Packet Scheduling in Multi-Channel Layered-Video Streaming over Wireless Networks**
Ronit Nossenson (Jerusalem College of Technology, Israel); Noam Amram (LiveU, Israel)
3. **Fusion Techniques for Multi-hop Relay Wireless Sensor Networks**
Joumana Farah (Holy-Spirit University of Kaslik, Lebanon); Anthony Beylerian (Holy-Spirit University of Kaslik, Lebanon); Charles Yaacoub (Holy-Spirit University of Kaslik, Lebanon); Ralph Stephan (Holy-Spirit University of Kaslik, Lebanon)
4. **QoE-aware FEC Mechanism for Intrusion Detection in Multi-tier Wireless Multimedia Sensor Networks**
Zhongliang Zhao (University of Bern, Switzerland); Torsten Ingo Braun (University of Bern, Switzerland); Denis Lima Rosário (Federal University of Para, Brazil); Eduardo Cerqueira (Federal University of Para, Brazil); Roger Immich (Universidade de Coimbra, Portugal); Marília Curado (University of Coimbra, Portugal)

CNBuB 1: 1st Workshop on Community Networks and Bottom-up-Broadband (Aula 13 - 9:00-10:30)

Chair: Llorenç Cerdà-Alabern (Universitat Politècnica de Catalunya, Spain)

1. **On the Relevance of Using Affordable Tools for White Spaces Identification**
Marco Zennaro (ICTP - The Abdus Salam International Centre for Theoretical Physics, Italy); Ermanno Pietrosevoli (International Centre for Theoretical Physics (ICTP), Italy); Antoine Bigomokero Bagula (University of Cape Town, South Africa); Sindiso Nleya (Computer Science Department, Zimbabwe)
2. **Topology patterns of a community network: Guifi.net**
Davide Vega (Universitat Politècnica de Catalunya, Spain); Llorenç Cerdà-Alabern (Universitat Politècnica de Catalunya, Spain); Leandro Navarro (Universitat Politècnica de Catalunya, Spain); Roc Meseguer (Universitat Politècnica de Catalunya, Spain)
3. **Community-Lab: Architecture of a Community Networking Testbed for the Future Internet**
Axel Neumann (Pangea, Spain); Ivan Vilata (Pangea, Spain); Xavier León (Universitat Politècnica de Catalunya, Spain); Pau Escrich Garcia (Guifi.net Foundation, Spain); Leandro Navarro (Universitat Politècnica de Catalunya, Spain); Ester López (Universitat Politècnica de Catalunya, Spain)
4. **Characterizing the Multimedia Service Capacity of Wireless Mesh Networks for Rural Communities**
Joaquín Chung (University of Panama, Panama); Grace González (University of Panama, Costa Rica); Ivan Armuelles (University of Panama, Costa Rica); Tomás Robles (Technical University of Madrid, Spain); Ramon Alcarria (Universidad Politécnica de Madrid, Spain); Augusto Morales (Technical University of Madrid, Spain)

Coffee Break (10:30-11:00)

PEMOS 2: 3rd International Workshop on the Performance Enhancements in MIMO-OFDM Systems (Aula 10 - 11:00-13:00)

Chair: Felip Riera-Palou (University of the Balearic Islands, Spain)

1. **Channel Estimation Using RF Signal Processor Based on OFDM System**
Md. Abdul Latif Sarker (Chonbuk National University, Korea)
2. **An Improved Sphere Decoder for MIMO Systems**
Goodwell Kapfunde (University of Hertfordshire, United Kingdom); Yichuang Sun (University of Hertfordshire, United Kingdom); Nandini Alinier (University of Hertfordshire, United Kingdom)
3. **Robust adaptive detection in linearly precoded MIMO-OFDM systems with hard/soft decoding**
Felip Riera-Palou (University of the Balearic Islands, Spain); Guillem Femenias (University of the Balearic Islands, Spain)
4. **Enhanced Channel Estimation Technique in MIMO-OFDM System**
Mohamed Ahmed (Khalifa University of Science, Technology and Research, UAE); Shihab Jimaa (Khalifa University, UAE); Ibrahim Abualhaol (Khalifa University, UAE)

WMSN 2: Workshop on Wireless Multimedia Sensor Networks (Aula 11 - 11:00-13:00)

Chair: Llorenç Cerdà-Alabern (Universitat Politècnica de Catalunya, Spain)

1. **Cross-Layer Caching Based Optimization for Wireless Multimedia Sensor Networks**
Nestor Tiglaio (INESC ID, Portugal); Antonio M. Grilo (INESC/IST, Portugal)
2. **Detecting and Coding Region of Interests in Bi-Level Images for Data Reduction in Wireless Visual Sensor Network**
Khurshed Khurshed (Mid Sweden University, Sweden); Naeem Ahmad (Mid Sweden University, Sweden); Muhammad Imran (Mid Sweden University, Sweden); Mattias O'Nils (Mid Sweden University, Sweden)
3. **Motion estimation on decoder side for low-complexity video encoding in wireless sensor networks**
Johannes Karlsson (Umeå University, Sweden)

CNBuB 2: 1st Workshop on Community Networks and Bottom-up-Broadband (Aula 13 - 11:00-13:00)

Chair: Leandro Navarro (Universitat Politècnica de Catalunya, Spain)

1. **Improved Community Network Node Design using a DLEP based Radio-to-Router Interface**
Christoph Barz (Fraunhofer FKIE, Germany); Henning Rogge (Fraunhofer Inst. for Communication, Information Processing and Ergonomics FKIE, Germany)
2. **Overhead Analysis of Embedded Wireless Testbeds**
Nathan Samson (University of Antwerp, Belgium); Glenn Daneels (University of Antwerp, Belgium); Bart Braem (IBBT, Belgium); Chris Blondia (University of Antwerp, Belgium)
3. **An evaluation of BMX6 for Community Wireless Networks**
Axel Neumann (Pangea, Spain); Ester López (Universitat Politècnica de Catalunya, Spain); Leandro Navarro (Universitat Politècnica de Catalunya, Spain)
4. **Improving Mesh-Agnostic Client Announcement in B.A.T.M.A.N.-Advanced**
Antonio Quartulli (University of Trento, Italy); Renato Lo Cigno (University of Trento, Italy)

Lunch (13:00-14:30)

VECON 1: 2nd International Workshop on Vehicular Communications and Networking (Aula 10 - 14:30-16:30)

Chair: Juan Jose Alcaraz (Universidad Politècnica de Cartagena, Spain)

1. **Optimum maneuvering under time constraints for high speed vehicles**
Juan-Bautista Tomas-Gabarron (Polytechnic University of Cartagena, Spain); Esteban Egea-Lopez (Polytechnic University of Cartagena (UPCT), Spain); Joan Garcia-Haro (Technical University of Cartagena, Spain)
2. **Enhancing Broadcast Vehicular Communications Using Beamforming Technique**
Ahmed Soua (Institut Telecom, France); Walid Ben-Ameur (Telecom SudParis, France); Hossam Affi (Institut Telecom, France)
3. **Advances in the Analysis of Urban VANETs: Scalable Integration of RADII in a Network Simulator**
Riccardo M. Scopigno (Istituto Superiore Mario Boella, Italy); Hector Agustin Cozzetti (Istituto Superiore Mario Boella, Italy); Luca Pilosu (Istituto Superiore Mario Boella, Italy); Francesco Fileppo (Istituto Superiore Mario Boella, Italy)

4. Multi-objective OLSR optimization for VANETs

Jamal Toutouh (University of Malaga, Spain); Enrique Alba (University of Malaga, Spain)

STWimob 1: 5th International Workshop on Selected Topics in Mobile and Wireless Computing (Aula 11 - 14:30-16:30)

Chair: Wael Guibène (EURECOM, France)

1. **A Combined Spectrum Sensing and Terminals Localization Technique for Cognitive Radio Networks**
Wael Guibène (EURECOM, France)
2. **Signal Detection for Spread Spectrum Communication Systems with Gradient Algorithm**
Samantha Sriyananda (University of Jyväskylä, Finland); Jyrki Joutsensalo (University of Jyväskylä, Finland); Timo Hämäläinen (University of Jyväskylä, Finland)
3. **TOA Location Estimation based on Cognitive Radio Channel Occupancy Prediction**
Robin Thomas (University of Pretoria, South Africa); Simon Barnes (University of Pretoria, South Africa); Bodhaswar TJ Maharaj (University of Pretoria, South Africa)
4. **Effect of Spatial Correlation on MMSE-Based Interference Alignment in a Multiuser MIMO MB-OFDM System**
Chung Le (Wilhelm Leibniz University Hannover, Institute of Communications Technology, Germany); Emil Dimitrov (Leibniz Universität Hannover, Germany); Anggia Anggraini (University of Hannover, Germany); Jürgen Peissig (Leibniz Universität Hannover, Germany); Hans-Peter Kuchenbecker (University of Hannover, Institut fuer Allgemeine Nachrichtentechnik, Germany)
5. **Analyzing Randomly Placed Multiple Antennas for MIMO Wireless Communication**
Thomas Janson (University of Freiburg, Germany); Christian Schindelbauer (University of Freiburg, Germany)

STWimob 2: 5th International Workshop on Selected Topics in Mobile and Wireless Computing (Aula 13 - 14:30-16:30)

Chair: Christos Antonopoulos (Technological Educational Institute of Mesolonghi, Greece)

1. **Multicast Routing Protocol for Vehicular Delay-Tolerant Networks**
Adriano Palma (INESC-ID, Instituto Superior Técnico, Technical University of Lisbon, Portugal); Paulo Pereira (INESC-ID, Portugal); Augusto J. D. Casaca (Instituto Superior Técnico in Lisbon, Portugal)
2. **A Hybrid Network for Maritime On-Board Communications**
Liping Mu (Universtiy of Agder, Norway)
3. **Implementing Personal Home Controllers on Smartphones for Service-Oriented Home Network**
Keisuke Tokuda (Kobe University, Japan); Shinsuke Matsumoto (Kobe University, Japan); Masahide Nakamura (Kobe University, Japan)
4. **Optimising file delivery in a maritime environment through inter-vessel connectivity predictions**
Panayiotis Kolios (Cyprus University of Technology, Cyprus); Lambros Lambrinos (Cyprus University of Technology, Cyprus)
5. **Moving the Mobile Evolved Packet Core to the Cloud**
James Kempf (Ericsson Research, USA); Bengt Johansson (Ericsson, Sweden); Sten Pettersson (Ericsson, Sweden); Harald Lüning (Ericsson, Sweden); Tord Nilsson (Ericsson, Sweden)
6. **Mobile Clouds: Comparative Study of Architectures and Formation Mechanisms**
Hamidreza Bagheri (University of Oulu, Finland); Prasanth Karunakaran (University of Erlangen-Nuremberg, Germany); Kaveh Ghaboosi (Airvana, LLC., USA); Timo Braysy (University of Oulu, Finland); Marcos D Katz (University of Oulu, Finland)

Coffee Break (16:30-17:00)

VECON 2: 2nd International Workshop on Vehicular Communications and Networking (Aula 10 - 17:00-18:30)

Chair: Esteban Egea-Lopez (Polytechnic University of Cartagena, Spain)

1. **EHealth Service Support In IPv6 Vehicular Networks**
Sofiane Imadali (Commissariat à l'Énergie Atomique, France); Athanasia Karanasiou (Vidavo, Greece); Alexandru Petrescu (Commissariat à l'Énergie Atomique, France); Ioannis Sifniadis (Vidavo, Greece); Véronique Vèque (University of Paris-Sud 11, France)

2. **Field Trial Results on Uplink Joint Detection for Moving Relays**

Michael Grieger (Technische Universität Dresden, Germany); Gerhard Fettweis (Technische Universität Dresden, Germany)

3. **Distributed Clustering in Vehicular Networks**

Leandros Maglaras (University of Thessaly, Greece); Dimitrios Katsaros (University of Thessaly, Greece)

4. **Physical-Layer Network Coding based on Integer-Forcing Precoded Compute and Forward**

Smrati Gupta (Universitat Autònoma de Barcelona, Spain); Maria-Angeles Vázquez-Castro (Universitat Autònoma de Barcelona, Spain)

STWimob 3: 5th International Workshop on Selected Topics in Mobile and Wireless Computing (Aula 11 - 17:00-18:30)

Chair: Bodhaswar TJ Maharaj (University of Pretoria, South Africa)

1. **The Effect of Symmetric Block Ciphers on WSN Performance and Behavior**

2. Christos Antonopoulos (Technological Educational Institute of Mesolonghi, Greece); Christos Petropoulos (Technological Educational Institute of Messolonghi, Greece); Konstantinos Antonopoulos (Technological Educational Institute of Messolonghi, Greece); Nikolaos Voros (Dept. of Telecommunication Systems and Networks, Greece); Vasilios Triantafyllou (Technical University of Messology, Greece)

3. **Secure Hotspot Authentication through a Near Field Communication Side-Channel**

Alfredo Matos (Caixa Mágica Software, Portugal); Daniel Romão (Caixa Mágica Software, Portugal); Paulo Trezentos (Caixa Mágica Software Lda, Portugal)

4. **Cross-Layer adaptive power save control method for wireless local area networks**

Hirokazu Kobayashi (Panasonic Corporation, Japan); Masaaki Harada (Panasonic Corporation, Japan); Satoshi Senga (Panasonic Corporation, Japan); Kazushige Yamada (Panasonic Corporation, Japan); Junichiro Soeda (Panasonic Corporation, Japan); Tsutomu Sekibe (Panasonic Corporation, Japan)

5. **Traffic Distribution and Network Capacity Analysis in Social Opportunistic Networks**

Bambang Soelistijanto (University of Surrey, United Kingdom); Michael P. Howarth (University of Surrey, United Kingdom)

6. **Impact of Semantic-aware Radio Resource Management Schemes on Video Streaming Service**

Luis Guillermo Martinez Ballesteros (KTH Royal Institute of Technology, Sweden); Pietro Lungaro (Royal Institute of Technology (KTH), Sweden); Zary Segall (KTH Royal Institute of Technology, Sweden)

STWimob 4: 5th International Workshop on Selected Topics in Mobile and Wireless Computing (Aula 13 - 17:00-18:30)

Chair: Jürgen Peissig (Leibniz Universität Hannover, Germany)

1. **Real Time Radio Coverage Monitoring in Self-organizing Networks with User Feedback**

Kejiong Li (Queen Mary, University of London, United Kingdom); Peng Jiang (Queen Mary University of London, United Kingdom); Eliane Bodanese (Queen Mary, University of London, United Kingdom); John Bigham (Queen Mary, University of London, United Kingdom)

2. **Physical-layer Intrusion Detection for Wireless Networks using Compressed Sensing**

Alexandros Fragkiadakis (Institute of Computer Science, FORTH, Greece); Sofia Nikitaki (FORTH-ICS and University of Crete, Greece); Panagiotis Tsakalides (FORTH-ICS and University of Crete, Greece)

3. **An Approach of Secure and Fashionable Recognition for Pervasive Face-to-Face Social Communications**

Zheng Yan (Xidian University, P.R. China); Yu Chen (Swiss Federal Institute of Technology (EPFL), Switzerland); Peng Zhang (Xian University of Posts and Telecommunications, P.R. China)

4. **A Deployable Scheme of CMT-SCTP with Off-the-Shelf Android Smartphones**

Atsuo Tachibana (KDDI R&D Laboratories, Japan); Teruyuki Hasegawa (KDDI R&D Laboratories Inc., Japan)

5. **Correlated Movement Mobility Model and Constant Acceleration Model for EKF-Based Tracking Applications**

Oktay Alkin (Southern Illinois University Edwardsville, USA); Binod Pant (Southern Illinois University Edwardsville, USA)

Welcome Cocktail (18:30-19:00)

DAY 2 (Tuesday, October 9, 2012) – Main Conference

Opening Ceremony (9:00-9:30)

Keynote 1 (Aula Magna - 9:30-10:30)

Title: *IWoT 'Internet of Thing and Web of Things': challenges and opportunities*

Speaker: Prof. Kun Mean HOU, University Blaise Pascal Clermont-Ferrand II, France.

Chair: Prof. Jorge Garcia-Vidal, Universitat Politècnica de Catalunya (UPC), Spain.

Coffee Break (10:30-11:00)

Session 1: WIRELESS SENSOR NETWORKS I (Aula Magna - 11:00-13:00)

Track: Wireless Networking, Mobility and Nomadicity

Chair: Wendi Heinzelman (University of Rochester, USA)

1. **Minimum 2-connected distance-k p-dominating set in wireless networks**
Louisa Harutyunyan (Concordia University, Canada); Lata Narayanan (Concordia University, Canada)
2. **CPWS: An Efficient Routing Protocol for RGB Sensor-based Fish Pond Monitoring System**
Nidal Nasser (Alfaisal University, Saudi Arabia); A N K Zaman (University of Guelph, Canada); Lutful Karim (University of Guelph, Canada); Nargis Khan (Ryerson University, Canada)
3. **SARI-MAC: The Self Adapting Receiver Initiated MAC Protocol for Wireless Sensor Networks**
Quentin Lampin (Orange Labs, France); Dominique Barthel (Orange Labs, France); Isabelle Augé-Blum (CITI, INSA Lyon, France); Fabrice Valois (INSA Lyon, France)
4. **Optimized packet size for energy efficient delay-tolerant sensor networks**
Károly Lendvai (Budapest University of Technology and Economics, Hungary); Ákos Milánkovich (Budapest University of Technology and Economics, Hungary); Sándor Imre (Technical University of Budapest, Hungary); Sándor Szabó (Budapest University of Technology and Economics, Hungary)
5. **Energy-Efficient Multicast Tree Construction Protocol for Real-Time Data Streaming in WSNs**
Nedal Ababneh (Letterkenny Institute of Technology, Ireland); Antonio M. Ortiz (WiSAR Lab, Ireland); Nick Francis Timmons (Letterkenny Institute of Technology, Ireland); Jim Morrison (WiSAR Lab - Letterkenny Institute of Technology, Ireland)
6. **A Lightweight Inter-User Interference Mitigation Method in Body Sensor Networks**
Wen Sun (National University of Singapore, Singapore); Yu Ge (Institute for Infocomm Research, Singapore); Wai-Choong Wong (National University of Singapore, Singapore)

Session 2: HANDOFF MANAGEMENT (Aula 11 - 11:00-13:00)

Track: Wireless Networking, Mobility and Nomadicity

Chair: Allen B. MacKenzie (Virginia Tech, USA)

1. **Cooperative end-to-end roaming through homogeneous and heterogeneous networks**
Abdellatif Ezzouhairi (École Polytechnique de Montréal, Canada); Samuel Pierre (Ecole Polytechnique de Montréal, Canada); Alejandro Quintero (Ecole Polytechnique de Montréal, Canada)
2. **O-PMIPv6: Efficient Handover with Route Optimization in Proxy Mobile IPv6 Domain**
Ahmad Rasem (Carleton University, Canada); Christian Makaya (Telcordia Technologies, USA); Marc St-Hilaire (Carleton University, Canada)
3. **Achieving Efficient Network Resources Utilization in Bicasting Proxy Mobile IPv6**
Lebajoa Mphatsi (University of Cape Town, South Africa); Olabisi Emmanuel Falowo (University of Cape Town, South Africa)
4. **Host-based Distributed Mobility Management Support Protocol for IPv6 Mobile Networks**
Jong-Hyoun Lee (TELECOM Bretagne, France); Jean-Marie Bonnin (Institut Mines Telecom / Telecom Bretagne, France); Xavier Lagrange (Institut Telecom - Telecom Bretagne, France)
5. **MOSAIC: Stateless Mobility for HTTP-based Applications**
Wonsang Song (Columbia University, USA); Georg Hampel (Bell Labs, Alcatel-Lucent, USA); Anil Rana (Bell Labs, USA); Thierry E Klein (Alcatel-Lucent, USA); Henning Schulzrinne (Columbia University, USA)
6. **Using Data Mining and Fingerprinting Extension with Device Orientation Information for WLAN Efficient Indoor Location Estimation**
David Sánchez (University of Las Palmas de Gran Canaria, Spain); Jose Quinteiro (Universidad de Las Palmas de Gran Canaria, Spain); Pablo Hernández-Morera (University of Las Palmas de Gran Canaria, Spain); Ernestina Martel-Jordán (University of Las Palmas de Gran Canaria, Spain)

Session 3: OFDM and CDMA TECHNOLOGIES and SYSTEMS (Aula 13 - 11:00-13:00)

Track: Wireless Communications

Chair: Sheng-Ju Ku (Tatung University, Taiwan)

1. **Contention Resolution in Wireless LANs Using Frequency-Domain Backoff**
Sheeraz A. Alvi (National University of Sciences & Technology, Pakistan); Adeel Baig (National University of Sciences and Technology, Pakistan)
2. **An Adaptive Resource Allocation in OFDMA Multi-hop Relay Networks**
Yue Zhao (Southwest Jiaotong University, P.R. China); Xuming Fang (Southwest Jiaotong University, P.R. China); Miao Pan (Texas Southern University, USA); Rongsheng Huang (University of Florida, USA); Yuguang Fang (University of Florida, USA); Yu Chen (Southwest Jiaotong University, P.R. China)
3. **A real-time FPGA-based implementation of a high-performance MIMO-OFDM transceiver featuring a closed-loop communication scheme**
Oriol Font-Bach (Centre Tecnològic de Telecomunicacions de Catalunya, Spain); Nikolaos Bartzoudis (CTTC, Spain); Antonio Pascual-Iserte (Universitat Politècnica de Catalunya, Spain); David López Bueno (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain)
4. **A New Side-Information Free PTS Scheme for PAPR Reduction in OFDM Systems**
Sheng-Ju Ku (Tatung University, Taiwan); Chin-Liang Wang (National Tsing Hua University, Taiwan)
5. **Performance Analysis of Pilot Arrangement for OFDM Systems over Time Varying Frequency Selective Channels**
Begüm Korunur Engiz (Ondokuz Mayıs University, Turkey); Cetin Kurnaz (Ondokuz Mayıs University, Turkey); Hatice Sezgin (Ondokuz Mayıs University, Turkey)
6. **Computationally Efficient Modulation of Well-Localised Signals for OFDM**
Dmitry Petrov (Magister Solutions Ltd., Finland); Pavel Gonchukov (University of Juväskylä, Finland); Timo Hämäläinen (University of Juväskylä, Finland)

Lunch (13:00-14:30)**Session 4: CONTEXT-AWARE SYSTEMS/VANETs (Aula Magna - 14:30-16:30)**

Track: Ubiquitous Computing, Services and Applications

Chair: Renato Lo Cigno (University of Trento, Italy)

1. **A Web Platform and a Methodology to promote a Collaborative Development of Context-Aware Systems**
David Martín (CICtourGUNE, Spain); Carlos Lamsfus (CICtourGUNE, Spain); Aurkene Alzua (CICtourGUNE, Spain); Diego López-de-Ipiña (Deusto Institute of Technology - DeustoTech, University of Deusto, Spain)
2. **Decentralized Search and Retrieval for Mobile Networks using SMS**
Isai Michel Lombera (University of California, Santa Barbara, USA); Louise E. Moser (University of California, Santa Barbara, USA); Michael Melliar-Smith (University of California, Santa Barbara, USA); Yung-Ting Chuang (University of California, Santa Barbara, USA)
3. **A Programming Model for Context-Aware Applications in Large-Scale Pervasive Systems**
Sanjin Sehic (Vienna University of Technology, Austria); Fei Li (Vienna University of Technology, Austria); Stefan Nastic (Vienna University of Technology, Austria); Schahram Dustdar (Vienna University of Technology, Austria)
4. **A Multi-metric QoS-balancing Scheme for Gateway Selection in a Clustered Hybrid VANET network**
Ghayet el mouna Zhioua (Sup'Com - Tunisia); Houda Labiod (TELECOM ParisTech (ex: ENST), France); Nabil Tabbane (Sup'com, Tunisia); Sami Tabbane (Sup Telecom, Tunisia)
5. **Analysis of Information Relay Processing in Inter-Vehicle Communication: A novel visit**
Ahmed Soua (Institut Telecom, France); Walid Ben-Ameur (Telecom SudParis, France); Hossam Afifi (Institut Telecom, France)
6. **Simulation-based evaluation of techniques for privacy protection in VANETs**
Andreas Tomandl (University of Regensburg, Germany); Florian Scheuer (University of Regensburg, Germany); Hannes Federrath (University of Hamburg, Germany)

Session 5: WIRELESS SENSOR NETWORKS II (Aula 11 - 14:30-16:30)

Track: Wireless Networking, Mobility and Nomadicity

Chair: Antonio M. Ortiz (WiSAR Lab, Ireland)

1. **An Energy Efficient Tracking Algorithm in UWB-based Sensor Networks**
Mingbo Dai (Politecnico Di Torino, Italy); Francesco Sottile (ISMB, Italy); Maurizio A. Spirito (ISMB, Italy); Roberto Garello (Politecnico di Torino, Italy)
2. **Content centric and Load-balancing aware Dynamic Data Aggregation in Multihop Wireless Networks**
Yichao Jin (Toshiba Research Europe Ltd, United Kingdom); Parag Kulkarni (Toshiba Research Europe Ltd., United Kingdom); Sedat Gormus (Toshiba Research Europe Ltd., United Kingdom); Mahesh Sooriyabandara (Toshiba Research Europe Limited, United Kingdom)
3. **A GRASP Based Algorithm For Efficient Cluster Formation in Wireless Sensor Networks**
Victor Matos (Universidade Federal de Viçosa, Brazil); Jose Elias Claudio Arroyo (Universidade Federal de Vicosa, Brazil); André dos Santos (Universidade Federal de Viçosa, Brazil); Luciana Gonçalves (Universidade Federal de Viçosa, Brazil)
4. **Adding QoS Support For Timeliness To The Observe Extension Of CoAP**
Alessandro Ludovici (Universitat Politècnica de Catalunya, Spain); Ernesto Garcia (Universitat Politècnica de Catalunya, Spain); Xavi Gimeno (Universitat Politècnica de Catalunya, Spain); Anna Calveras Augé (Universtidad Politècnica de Catalunya, Spain)
5. **ASF: an Attack Simulation Framework for wireless sensor networks**
Gianluca Dini (University of Pisa, Italy); Marco Tiloca (University of Pisa, Italy)

Session 6: MODULATION AND CODING (Aula 13 - 14:30-16:30)

Track: Wireless Communications

Chair: Shihab Jimaa (Khalifa University, UAE)

1. **Interference-free regions with Han-Kobayashi Scheme for M-QAM and Scalar channels**
Paresh Saxena (Universitat Autònoma de Barcelona, Spain); Maria-Angeles Vázquez-Castro (Universitat Autònoma de Barcelona, Spain)
2. **Interference Mitigation with Rate Splitting in Multi-Cell Wireless Networks**
Guangxia Zhou (Intel Mobile Communications GmbH, Germany); Wen Xu (Intel, Germany); Gerhard Bauch (Universitaet der Bundeswehr Munich, Germany)
3. **Lattice Network Codes Based on Eisenstein Integers**
Qifu T Sun (The Chinese University of Hong Kong, Hong Kong); Jinhong Yuan (University of New South Wales, Australia)
4. **Impact of intra-flow network coding on the relay channel performance: an analytical study**
Anya Apavatjrut (Chiang Mai University, Thailand); Claire Goursaud (INSA-Lyon, France); Katia Jaffrès-Runser (University of Toulouse, France); Jean-Marie Gorce (INSA-Lyon, France)
5. **Impact of Rateless Codes on System Delay and Throughout for Network-coded Multi-source and Multi-destination Scenarios**
Zheng Ma (Southwest Jiaotong University, P.R. China); Zhiguo Ding (Newcastle University, United Kingdom); Pingzhi Fan (Southwest Jiaotong Universityiversity, P.R. China)
6. **Joint Source/Channel Coding in 3D-JPEG2000 for Wireless 3D Region of Interest Transmission in 3D Medical Imaging Data**
Victor Sanchez (Universitat Autònoma de Barcelona, Spain); Joan Serra-Sagrista (Universitat Autònoma de Barcelona, Spain)

Coffee Break (16:30-17:00)**Session 7: ENERGY EFFICIENT PROTOCOLS for WIRELESS NETWORKS (Aula Magna - 17:00-18:00)**

Track: Wireless Networking, Mobility and Nomadicity

Chair: Pietro Manzoni (Universidad Politécnic de Valencia, Spain)

- 1. Energy Efficient Network Data Transport through Adaptive Compression using the DEEP Platforms**
Digvijay Singh (University of California, Los Angeles, USA); William Kaiser (University of California, Los Angeles, USA)
- 2. NIZE - A Near Field Communication Interface Enabling Zero Energy Standby for Everyday Electronic Devices**
Norbert Druml (Graz University of Technology, Austria); Manuel Menghin (Graz University of Technology, Austria); Rejhan Basagic (Graz University of Technology, Austria); Christian Steger (Graz University of Technology, Austria); Reinhold Weiss (Graz University of Technology, Austria); Holger Bock (Infineon Technologies, Austria); Josef Haid (Infineon Technologies Austria AG, Austria)
- 3. Time-Knocking: A Novel Addressing Mechanism for Wake-up Receivers**
Joaquim Oller (Universitat Politècnica de Catalunya, Spain); Ilker Demirkol (Universitat Politècnica de Catalunya, Spain); Josep Paradells (UPC, Spain); Jordi Casademont (Technical University of Catalonia (UPC), Spain); Wendi Heinzelman (University of Rochester, USA)

Session 8: WIRELESS MESH NETWORKS (Aula 11 - 17:00-18:00)

Track: Wireless Networking, Mobility and Nomadicity

Chair: Jose M. Barcelo-Ordinas (Universitat Politècnica de Catalunya, Spain)

- 1. The Interaction Between TCP Reordering Mechanisms and Multi-path Forwarding in Wireless Mesh Networks**
Jonas Karlsson (Karlstad University, Sweden); Per Hurtig (Karlstad University, Sweden); Anna Brunstrom (Karlstad University, Sweden); Andreas J. Kessler (Karlstad University, Sweden); Giovanni Di Stasi (University of Naples "Federico II", Italy)
- 2. An Interference-Aware Routing Metric for Multi-Radio Multi-Channel Wireless Mesh Networks**
Amira Bezzina (University of Manouba, Tunisia); Mouna Ayari (University of La Manouba - Tunisia, Tunisia); Rami Langar (UPMC - University of Paris 6, France); Farouk Kamoun (SESAME University, Tunisia)
- 3. VLX: A Novel Virtual Localization Extension for Geographical Leash-based Secure Routing in Indoor Wireless Mesh Scenarios**
Mohamad Sbeiti (Dortmund University of Technology, Germany); Jonas Hinker (Dortmund University of Technology, Germany); Christian Wietfeld (TU Dortmund University, Germany)

Session 9: CELLULAR SYSTEMS I (Aula 13 - 17:00-18:00)

Track: Wireless Communications

Chair: Abdelhakim Khelifi (National Engineering School of Tunis, Tunisia)

- 1. On the Relay Placement Problem in a Multi-cell LTE-Advanced System with Co-channel Interference**
Omar Abdallah Elgendy (Faculty of Engineering, Cairo University, Egypt); Mahmoud H. Ismail (Cairo University, Egypt); Khaled Elsayed (Cairo University, Egypt)
- 2. Dimensioning of the Shared Transport Network for Collocated Multiradio: LTE and HSDPA**
Xi Li (University of Bremen, Germany); Ming Li (Hamburg University of Technology, Germany); Umar Toseef (University of Bremen, Germany); Dominik Dulas (Nokia Siemens Networks, Poland); Michal Nowacki (Nokia Siemens Networks, Germany); Andreas Timm-Giel (Hamburg University of Technology, Germany); Carmelita Goerg (University of Bremen, Germany); Radoslaw Ruchala (Nokia Siemens Networks, Poland)
- 3. Reduced Complexity of a Hybrid LS-LMMSE Channel Estimation Technique for LTE Downlink Systems**
Abdelhakim Khelifi (National Engineering School of Tunis, Tunisia)

Conference Banquet (20:30)

DAY 3 (Wednesday, October 10, 2012) – Main Conference

Keynote 2 (Aula Magna - 8:45-9:35)

Title: *Smart Cities*

Speaker: Mariano Lamarca, Hàbitat Urbà, Ajuntament de Barcelona, Spain.

Chair: Prof. Jorge Garcia-Vidal, Universitat Politècnica de Catalunya (UPC), Spain.

Keynote 3 (Aula Magna - 9:40-10:30)

Title: *On the Potential and Challenges of Multi-Hop Cellular Networks with Mobile Relays*

Speaker: Dr. Javier Gozalvez, UWICORE Laboratory, Miguel Hernandez University of Elche (UMH), Spain.

Chair: Prof. Abderrahim Benslimane, University of Avignon, LIA/CERI, France.

Coffee Break (10:30-11:00)

Session 10: OPPORTUNISTIC NETWORKS and DTN (Aula Magna - 11:00-13:00)

Track: Wireless Networking, Mobility and Nomadicity

Chair: Jose M. Barcelo-Ordinas (Universitat Politècnica de Catalunya, Spain)

1. **Context Sensing for Autonomic Forwarding in Opportunistic Networks**
Elena Pagani (University of Milano, Italy); Gian Paolo Rossi (Università degli Studi di Milano, Italy)
2. **Energy-Efficient Cooperative Download for Smartphone Users through Contact Time Estimation**
Keiichi Yasumoto (Nara Institute of Science and Technology, Japan); Yu Takamatsu (Nara Institute of Science and Technology, Japan); Weihua Sun (Nara Institute of Science and Technology, Japan); Minoru Ito (Nara Institute of Science and Technology, Japan)
3. **DTN-Based Data Aggregation for Timely Information Collection in Disaster Areas**
Jovilyn Therese Fajardo (Nara Institute of Science and Technology, Japan); Keiichi Yasumoto (Nara Institute of Science and Technology, Japan); Naoki Shibata (Shiga University, Japan); Weihua Sun (Nara Institute of Science and Technology, Japan); Minoru Ito (Nara Institute of Science and Technology, Japan)
4. **Mistify: Augmenting Cloud Storage With Delay-Tolerant Cooperative Backup**
Karthik Nilakant (University of Cambridge, United Kingdom); Jon Crowcroft (University of Cambridge, United Kingdom); Eiko Yoneki (University of Cambridge, United Kingdom)
5. **Dynamic Temporal Scalability: video adaptation in sparse Mobile Ad-Hoc Networks**
Sergio Cabrero (University of Oviedo, Spain); Thomas Plagemann (University of Oslo, Norway); Xabiel García Pañeda (University of Oviedo, Spain); Roberto Garcia (University of Oviedo, Spain); David Melendi (University of Oviedo, Spain)

Session 11: ALGORITHMS and MODELS (Aula 11 - 11:00-13:00)

Track: Wireless Networking, Mobility and Nomadicity

Chair: Jorge Garcia-Vidal (Technical University of Catalonia, Spain)

1. **Modeling Routing in Smartphones-Based Wireless Networks using Evolving Graphs**
David Soler (Universitat Politècnica de València, Spain); José Albiach (Universitat Politècnica de València, Spain); Eulalia Martínez (Universitat Politècnica de València, Spain); Pietro Manzoni (Universidad Politècnica de Valencia, Spain)
2. **Mitigating the Effect of Mobility on Cooperation in Wireless Ad Hoc Networks**
Amr E. Hilal (Virginia Tech, USA); Allen B. MacKenzie (Virginia Tech, USA)
3. **How to Reduce and Stabilize MPR sets in OLSR networks**
Leonardo Maccari (University of Trento, Italy); Renato Lo Cigno (University of Trento, Italy)
4. **Mean Degree of Ad Hoc Networks in Environments with Obstacles**
Cédric Aboue-nze (University of Le Havre, France); Frédéric Guinand (Le Havre University, France)
5. **On the Topology Characterization of Guifi.net**
Llorenç Cerdà-Alabern (Universitat Politècnica de Catalunya, Spain)
6. **On the Modeling of a Realistic Wireless Channel by means of a Hidden Markov Process**
David Gomez (Universidad de Cantabria, Spain); Ramon Agüero (University of Cantabria, Spain); Marta Garcia (University of Cantabria, Spain); Luis Muñoz (University of Cantabria, Spain)

Session 12: COGNITIVE RADIO (Aula 13 - 11:00-13:00)

Track: Wireless Communications

Chair: Elena Meshkova (RWTH Aachen University, Germany)

1. **Optimal Random Access and Random Spectrum Sensing for an Energy Harvesting Cognitive Radio**
Ahmed El Shafe (Wireless Intelligent Networks Center (WINC), Nile University, Egypt); Ahmed Sultan (Alexandria University, Egypt)
2. **Optimal Policy for Joint Spectrum Resource Management in Multi-Band Cognitive Radio Networks**
Junichi Suga (Fujitsu Laboratories LTD., Japan); Tao Guo (University of Surrey, United Kingdom); Rahim Tafazolli (University of Surrey, United Kingdom)
3. **Enhanced Protection of Hidden Primary Users through Filtering based on Suspect Channels Classification**
José Marinho (Instituto Superior de Engenharia de Coimbra, Portugal); Edmundo Monteiro (University of Coimbra, Portugal)
4. **Heterogeneous torus Quorum-based Rendezvous in Cognitive Radio Ad Hoc Networks**
Sylwia Antonina Romaszko (RWTH Aachen University, Germany); Petri Mähönen (RWTH Aachen University, Germany)

Lunch (13:00-14:30)**Session 13: SECURITY, PRIVACY & LOCATION AWARE APPLICATIONS (Aula Magna - 14:30-16:00)**

Track: Ubiquitous Computing, Services and Applications

Chair: Younghwan Yoo (Pusan National University, Korea)

1. **Path Privacy Protection in Continuous Location-Based Services over Road Networks**
Huei-Jhih Lyu (National Taiwan University of Science and Technology, Taiwan); Kai-Ting Yang (National Taiwan University of Science and Technology, Taiwan); Ge-Ming Chiu (National Taiwan University of Science and Technology, Taiwan); Ding-Jie Huang (National Taiwan University of Science and Technology, Taiwan); Wei-Chung Teng (National Taiwan University of Science and Technology, Taiwan)
2. **Evaluating the threat of epidemic mobile malware**
Christian Szongott (Leibniz Universität Hannover, Germany); Benjamin Henne (Leibniz Universität Hannover, Germany); Matthew Smith (Leibniz Universität Hannover, Germany)
3. **Container Security Device Chain Network for Safe Railway Transportation**
Younghwan Yoo (Pusan National University, Korea)
4. **Authenticating a Mobile Device's Location Using Voice Signatures**
Jack Brassil (HP Laboratories, USA); Ravi Netravali (Columbia University, USA); Stuart Haber (HP Laboratories, USA); Pratyusa K Manadhata (Hewlett Packard, USA); Prasad Rao (Hewlett Packard, USA)

Session 14: CELLULAR SYSTEMS II (Aula 11 - 14:30-16:00)

Track: Wireless Communications

Chair: Vicente Casares-Giner (Universitat Politècnica de Valencia, Spain)

1. **PaGeO: Pareto-based Genetic Optimization for LTE Radio-over-Fiber Cellular Backhauling**
Ahmed Haddad (Telecom ParisTech, France); Maurice Gagnaire (Telecom ParisTech (Ecole Nationale Supérieure des Telecommunications), France)
2. **Resource Allocation in Macrocell-Femtocell Network using Genetic Algorithm**
Hanaa Marshoud (Khalifa University, UAE); Hadi Otrouk (Khalifa University of Science, Technology & Research (KUSTAR), UAE); Hassan Barada (Khalifa University of Science, Technology and Research, UAE); Rebeca Estrada (ETS, Canada); Abdallah Jarray (University of Ottawa, Canada); Zbigniew Dziong (École de technologie supérieure, University of Quebec, Canada)
3. **Deployment and Interface Design Considerations for Radio Environment Maps**
Siva Subramani (Toshiba Research Europe Limited, United Kingdom); Tim D Farnham (Toshiba Research Europe Ltd., United Kingdom); Mahesh Sooriyabandara (Toshiba Research Europe Limited, United Kingdom)

Session 15: COOPERATIVE NETWORKS and MIMO CHANNELS (Aula 13 - 14:30-16:00)

Track: Wireless Communications

Chair: Tadashi Fujino (The University of Electro-Communications, Japan)

1. **On the Impact of Power Allocation on Coalition Formation in Cooperative Wireless Networks**
Mohammed W. Baidas (Kuwait University, Kuwait); Allen B. MacKenzie (Virginia Tech, USA)
2. **Power Allocation in Multi-node Cooperative Network in Rician Fading Channels**
Mulugeta Fikadu (University of Vaasa, Finland); Mohammed Salem Elmusrati (University of Vaasa, Finland); Reino Virrankoski (University of Vaasa, Finland)
3. **Adaptive Candidate Selection Scheme in QRM-MLD Algorithm for MIMO Detection**
Wei Hou (The University of Electro-Communications, Japan); Tadashi Fujino (The University of Electro-Communications, Japan); Toshiharu Kojima (The University of Electro-Communications, Japan)
4. **A Simple Model for Imperfect Channel State Information and Its Application for the Assessment of Interference Alignment**
Danish Aziz (Alcatel-Lucent Bell Labs, Germany); Sevil Sentuerk (Alcatel-Lucent, Germany); Andreas Weber (Alcatel-Lucent, Germany); Thorsten Wild (Alcatel-Lucent Bell Labs, Germany)