

# **2012 IEEE Wireless Communications and Networking Conference Workshops**

**(WCNCW 2012)**

**Paris, France  
1 April 2012**



**IEEE Catalog Number: CFP1243J-PRT  
ISBN: 978-1-4673-0681-2**

# W1 - Future Green Communications: WCNC 2012 Workshop on Future Green Communications - Program

## Committees and welcome

Sunday, April 1

09:00 - 10:30

### S1: Green Wireless Communications and Networking I

Room: 323

Chair: M  rouane Debbah (Supelec, France)

#### **Keynote1**

George Rittenhouse (Alcatel-Lucent, USA)

#### **Per-energy Capacity and Handoff Strategies in Macro-Femto Cells Environment**

Jaime Pe  a Le  n (King Abdullah University of Science and Technology, Saudi Arabia); Faouzi Bader (CTTC & Centre Tecnologic de Telecomunicacions de Catalunya, Spain); Mohamed-Slim Alouini (King Abdullah University of Science and Technology (KAUST), Saudi Arabia)

#### **Energy Efficient Design in AF Relay Networks with Bidirectional Asymmetric Traffic**

Rong Huang (Beijing University of posts and telecommunications, P.R. China); Feng Chunyan (Beijing University of Posts and Telecommunications, P.R. China); Tiankui Zhang (Beijing University of Posts and Telecommunications, P.R. China)

11:00 - 12:30

### S2: Green Wireless Communications and Networking II

Room: 323

Chair: Eric Maser   (Sagemcom, France)

#### **Creating Green Incentives and Mechanisms Through Packet-Level Energy Accounting**

Matti Siekkinen (Aalto University, Finland); Jukka K. Nurminen (Aalto University, Finland); Antti Yl  -J   ski (Aalto University, Finland)

#### **Coexistence of TV White Space Enabled Cognitive Wireless Access Points**

Gabriel Villardi (National Institute of Information and Communications Technology (NICT), Japan); Chen Sun (National Institute of Information & Communications Technology, Japan); Yohannes D. Alemseged (National

Institute of Information and Communication Technology, Japan); Hiroshi Harada (National Institute of Information & Communications Technology (NICT), Japan)

***Energy Efficiency in Large Scale Interference Limited Wireless Ad hoc Networks***

Syed Ali Raza Zaidi (University of Leeds, Morocco); Mounir Ghogho (University of Leeds, United Kingdom); Desmond McLernon (The University of Leeds, United Kingdom); Ananthram Swami (Army Research Lab., USA)

***Modelling the Power Consumption in Femtocell Networks***

Margot Deruyck (Ghent University / IBBT, Belgium); Dieter De Vulder (Ghent University, Belgium); Wout Joseph (Ghent University, Belgium); Luc Martens (Ghent University, Belgium)

**14:00 - 15:30**

**S3: Green Wireless Communications and Networking III**

Room: 323

Chair: Dominique Noguét (CEA LETI, France)

***Keynote 2***

Jean-Philippe Javaudin (Orange, France)

***Distributed Decision Making to Improve Link Quality in Coexisting TVWS Secondary Networks***

Yohannes D. Alemseged (National Institute of Information and Communication Technology, Japan); Chen Sun (National Institute of Information & Communications Technology, Japan); Ha-Nguyen Tran (NICT, Japan); Hiroshi Harada (National Institute of Information & Communications Technology (NICT), Japan); Gabriel Villardi (National Institute of Information and Communications Technology (NICT), Japan)

***Energy-Efficient Transmission Strategy for Cognitive Radio Systems***

Yuan Wu (Zhejiang University of Technology, P.R. China); Vincent Lau (Hong Kong University of Science and Technology, Hong Kong); Danny H. K. Tsang (Hong Kong University of Science and Technology, Hong Kong); Liping Qian (Zhejiang University of Technology, P.R. China)

**16:00 - 17:30**

**S4: Green Wireless Communications and Networking IV**

Room: 323

Chair: Emilio Calvanese Strinati (CEA-LETI, France)

***Urban Small Cell Deployments: Impact on the Network Energy Consumption*** ( +

Rouzbeh Razavi (Bell labs, Alcatel-Lucent, Ireland); Holger Claussen (Bell Labs, Alcatel-Lucent, Ireland)

***Energy Efficiency of Heterogeneous Networks in LTE-Advanced*** )'

Chadi Khirallah (The University of Edinburgh, United Kingdom); John Thompson (University of Edinburgh, United Kingdom); Dejan Vukobratovic (University of Novi Sad, Serbia)

***Sampling Jitter in Charge Sampling Radio*** ) -

Ville Syrjälä (Tampere University of Technology, Finland); Vesa K Lehtinen (Tampere University of Technology, Finland); Mikko Valkama (Tampere University of Technology, Finland)

***Energy Efficient Resource Allocation in Wireless Systems with Control Channel Overhead*** )\*(

Stefan Videv (University of Edinburgh, United Kingdom); Harald Haas (The University of Edinburgh, United Kingdom); John Thompson (University of Edinburgh, United Kingdom); Peter Grant (Edinburgh School of Engineering and Electronics, United Kingdom)

# W1 - Future Green Communications: WCNC 2012 Workshop on Future Green Communications - Committees and Welcome

## Organizing Committee

### Co-Chair

Emilio Calvanese Strinati (CEA-LETI, France)

Mérouane Debbah (Supelec, France)

Suresh Goyal (Bell Laboratories, USA)

Eric Masera (Sagemcom, France)

func\_welcome(): message does not exist.

## Technical Program Committee

Sergio Barbarossa	University of Rome	Italy
Oliver Blume	Alcatel-Lucent Bell Labs	Germany
Emilio Calvanese Strinati	CEA-LETI	France
Antonio Capone	Politecnico di Milano	Italy
Narcis Cardona	Universidad Politecnica Valencia	Spain
Luis Correia	IST - Technical University Lisbon	Portugal
Raffaele D'Errico	CEA, LETI, Minatec Campus	France
Nicolas Dangy-Caye	Sagemcom	France
Mérouane Debbah	Supelec	France
Konstantinos Dimou	Ericsson Research	Sweden
Albrecht Fehske	Technische Universität Dresden	Germany
István Gódor	Ericsson Hungary	Hungary
Jean-Marie Gorce	INSA-Lyon	France
Suresh Goyal	Bell Laboratories	USA
Michel Imbert	ST Microelectronics	France
Muhammad Ali Imran	University of Surrey	United Kingdom
Christophe Janneteau	CEA, LIST, Communicating Systems Laboratory	France
Stefan Kaiser	DOCOMO Euro-Labs	Germany
Dan Kilper	Bell Laboratories	USA
Matti Latva-aho	UoOulu	Finland
David López-Pérez	Bell Labs Alcatel-Lucent	Ireland
Eric Masera	Sagemcom	France
Simone Morosi	University of Florence	Italy
Dominique Noguét	CEA LETI	France
Magnus Olsson	Ericsson Research	Sweden
Chiara Petrioli	University of Rome "La Sapienza"	Italy
Tony Q. S. Quek	Institute for Infocomm Research	Singapore

Dario Rossi	Telecom ParisTech	France
Dario Sabella	Telecom Italia	Italy
Lionel Seinturier		France
Rahim Tafazolli	University of Surrey	United Kingdom
Barth Ulrich	Bell Labs, Alcatel-Lucent	Germany
Haibin Zhang	TNO ICT	The Netherlands

# W2 - Broadband Femtocell Technologies: WCNC 2012 Workshop on Broadband Femtocell Technologies - Program

## Committees and welcome

Sunday, April 1

09:00 - 10:30

### S1: Broadband Femtocell Technologies I: Opening Session

Room: 324

Chair: Thierry Lestable (Sagemcom SAS, France)

**Keynote Speech#1: Qualcomm, Head of Corporate R&D Center Germany**  
Juan Montojo (Qualcomm Inc., USA)

**Mobility Enhancements for Heterogeneous Networks through Interference Coordination** \*\* -

David López-Pérez (Bell Labs Alcatel-Lucent, Ireland); Ismail Güvenç (DOCOMO Innovations, Inc., USA); Xiaoli Chu (King's College London, United Kingdom)

**Macro-Femto Inter-Cell Interference Mitigation for 3GPP LTE-A Downlink** \*\* +

Ming Huang (Technical University Munich & Intel Mobile Communication, P.R. China); Wen Xu (Intel & Intel Mobile Communications, Germany)

11:00 - 12:30

### S2: Broadband Femtocell Technologies II

Room: 324

Chair: David López-Pérez (Bell Labs Alcatel-Lucent, Ireland)

**Enabling Macrocell-Femtocell Coexistence through Interference Draining** \*\*, %

Francesco Pantisano (University of Bologna & Centre for Wireless Communications, Finland); Mehdi Bennis (Centre of Wireless Communications, University of Oulu, Finland); Walid Saad (University of Miami, USA); Matti Latva-aho (UoOulu, Finland); Roberto Verdone (University of Bologna, Italy)

**A Fully Distributed Method for Dynamic Spectrum Sharing in Femtocells** \*\*, +

Gustavo W. O. Costa (Aalborg University, Denmark); Andrea F. Cattoni (Aalborg University, Denmark); Istvan Z. Kovács (Nokia Siemens Networks, Denmark); Preben Mogensen (Nokia Siemens Networks, Aalborg, Denmark)

***Distributed Opportunistic Medium Access Control in Two-Tier Femtocell Networks***

Ben Niu (Tsinghua University, P.R. China); Chia-Lin Wu (SUPELEC, Taiwan); Marios Kountouris (Supélec, France); Yunzhou Li (Tsinghua University, P.R. China)

***Dynamic Graph-based Multi-cell Scheduling for Femtocell Networks***

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)

**14:00 - 15:30**

**S3: Broadband Femtocell Technologies III**

Room: 324

Chair: Guillaume de la Roche (Mindspeed Technologies, France)

***Keynote Speech#2: Alcatel-Lucent Bell Labs***

Holger Claussen (Bell Labs, Alcatel-Lucent, Ireland)

***Use of Learning, Game Theory and Optimization as Biomimetic Approaches for Self-Organization in Macro-Femtocell Coexistence***

Ali Imran (Qatar University Wireless Innovation Center (QUWIC), Qatar); Mehdi Bennis (Centre of Wireless Communications, University of Oulu, Finland); Lorenza Giupponi (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain)

***Virtual Soft Handoff Enabled Dominant Interference Cancellation for Enhanced Uplink Performance in Heterogeneous Cellular Networks***

Krishna Balachandran (Bell Labs, Alcatel-Lucent, USA); Joseph H. Kang (Bell Labs, Alcatel-Lucent, USA); Mehmet Kemal Karakayali (Bell Labs, Alcatel-Lucent, USA); Kiran M Rege (Bell Laboratories, Alcatel-Lucent, USA)

***Primary Component Carrier Selection for a Heterogeneous Network: a Comparison of Selfish, Altruistic and Symmetric Strategies***

Parth Amin (Aalto University, Finland); Olav Tirkkonen (Aalto University, Finland); Tero Henttonen (Renesas Mobile Europe, Finland); Esa Pernila (Renesas Mobile Europe, Finland)

**16:00 - 17:30**

**S4: Broadband Femtocell Technologies IV: Closing Session**

Room: 324

Chair: Frank A. Zdarsky (NEC Europe Ltd., Germany)



***Femtocell Networks: Breaking the Complexity of Centralized Processing with Novel Dual-Stage Receivers***

Rizwan Ghaffar (University of Waterloo, Canada); Pin-Han Ho (University of Waterloo, Canada); Umer Salim (Intel Mobile Communications, France); Bin Wu (University of Electronic Science and Technology of China, P.R. China)

***CoMP in Heterogeneous Networks: Linear Transceiver Design Using the Minimum Weighted Geometric-MSE Criterion***

Tarik Akbudak (University of Duisburg-Essen, Germany); Andreas Cзыlwik (Universität Duisburg-Essen, Germany)

***Bit-Wise Combining for Decode-and-Forward Relays***

Namshik Kim (Georgia Institute of Technology, USA); John Barry (Georgia Institute of Technology, USA)

***Wireless Over Cable In Femtocell Systems: A Case Study From Indoor Channel Measurements***

Jonathan Gambini (Politecnico di Milano, Italy); Stefano Savazzi (CNR & Politecnico di Milano, Italy); Paolo Castiglione (FTW, Austria); Umberto Spagnolini (Politecnico di Milano, Italy); Gerald Matz (Vienna University of Technology, Austria)

# W2 - Broadband Femtocell Technologies: WCNC 2012 Workshop on Broadband Femtocell Technologies - Committees and Welcome

## Organizing Committee

### Co-Chair

Thierry Lestable (Sagemcom SAS, France)

Guillaume de la Roche (Mindspeed Technologies, France)

David López-Pérez (Bell Labs Alcatel-Lucent, Ireland)

Frank A. Zdarsky (NEC Europe Ltd., Germany)

func\_welcome(): message does not exist.

## Technical Program Committee

Gunther Auer	Ericsson	Sweden
Krishna Balachandran	Bell Labs, Alcatel-Lucent	USA
Mehdi Bennis	Centre of Wireless Communications, University of Oulu	Finland
Stefan Brueck	Qualcomm CDMA Technologies	Germany
Emilio Calvanese Strinati	CEA-LETI	France
Vikram Chandrasekhar	Texas Instruments	USA
Xiaoli Chu	King's College London	United Kingdom
Guillaume de la Roche	Mindspeed Technologies	France
Anthony Ekpenyong	Texas Instruments	USA
Afef Feki	Bell Labs - Alcatel Lucent - France	France
Lorenzo Galati Giordano	Azcom Technology Srl	Italy
Lorenza Giupponi	Centre Tecnològic de Telecomunicacions de Catalunya (CTTC)	Spain
Jean-Marie Gorce	INSA-Lyon	France
Fredrik Gunnarsson	Ericsson Research	Sweden
Ismail Güvenç	DOCOMO Innovations, Inc.	USA
Marios Kountouris	Supélec	France
Raymond Kwan	Ubiquisys	United Kingdom
Massinissa Lalam	Sagemcom E&T	France
Thierry Lestable	Sagemcom SAS	France
Jie Li	University of Tsukuba	Japan
David López-Pérez	Bell Labs Alcatel-Lucent	Ireland

Yves Lostanlen	SIRADEL	Canada
Sylvie Mayrargue	CEA-LETI	France
Ruben Merz	Deutsche Telekom Laboratories	Germany
Emilio Mino	Telefónica Investigacion y Desarrollo	Spain
Liam Murphy	University College Dublin	Ireland
Manuel Palmowski	MimoOn	Germany
Atta Quddus	University of Surrey	United Kingdom
Tony Q. S. Quek	Institute for Infocomm Research	Singapore
Sundeeep Rangan	Polytechnic University of New York University	USA
Mark Reed	Australian National University	Australia
Stefan Schmid	NEC Europe Ltd.	Germany
Shilpa Talwar	Intel	USA
Athanasios Vasilakos	National Technical University of Athens	Greece
Attila Vidács	Budapest University of Technology and Economics	Hungary
Frank Zdarsky	NEC Europe Ltd.	Germany
Jie Zhang	University of Sheffield, Dept. of Electronic and Electrical Engineering	United Kingdom

# W3 - IoT-ET 2012: WCNC 2012 Workshop on Internet of Things Enabling Technologies, Embracing Machine-to-Machine Communications and Beyond - Program

## Committees and welcome

Sunday, April 1

09:00 - 10:30

### S1: Smart Grid and RFID Technologies

Room: 304/305

Chair: Angeliki Alexiou (University of Piraeus, Greece)

#### ***M2M Communication in Smart Grids: Implementation Scenarios and Performance Analysis***

Syed Abdul Salam (University of Engineering and Technology, Peshawar, Pakistan); Sahibzada Ali Mahmud (University of Engineering and Technology, Peshawar, Pakistan); Gul Muhammad Khan (University of Engineering and Technology Peshawar, Pakistan); Hamed Saffa Al-Raweshidy (University of Brunel, United Kingdom)

#### ***Enabling Smart Grid with ETSI M2M Standards***

Guang Lu (InterDigital Communications, Canada); Dale Seed (InterDigital, USA); Michael Starsinic (InterDigital, USA); Chonggang Wang (InterDigital Communications, USA); Paul Russell (InterDigital, USA)

#### ***Ultra Low-Power UWB-RFID System for Precise Location-Aware Applications***

Yuan Zhou (Institute for Inforcomm Research, Singapore); Choi Look Law (Nanyang Technological University, Singapore); Jingjing Xia (Nanyang Technological University, Singapore)

#### ***Prototyping a Multi-Root ONS***

Roberto Quilez (INRIA Lille - Nord Europe, France); Nathalie Mitton (INRIA Lille-Nord Europe, CNRS UMR 8022, IRCICA, USTL, France); Marcelo Dias de Amorim (UPMC Sorbonne Universités, France); Nicolas Pauvre (GS1 France, France)

#### ***A Secure Tag Ownership Transfer Scheme in a Closed Loop RFID System***

Robin Doss (Deakin University, Australia); Wanlei Zhou (Deakin University, Australia)

**11:00 - 12:30**

## **S2: M2M Network Architecture**

Room: 304/305

Chair: Djelal Raouf (Sagemcom Energy&Telecom, France)

### ***UPnP: Breaking out of the LAN***

Jim Grimmett (University of Bath, United Kingdom); Eamonn O'Neill (University of Bath, United Kingdom)

### ***Improving Vertical Handovers using IEEE 802.21 Services and Multicast Addressing***

Michel Bonfim (Federal University of Ceará, Brazil); Miguel Franklin de Castro (Federal University of Ceará, Brazil); Stenio Fernandes (Federal University of Pernambuco, Brazil); Rossana Maria de Castro Andrade (Federal University of Ceara, Brazil); Ahmed Karmouch (University of Ottawa, Canada)

### ***Supporting Efficient Machine-to-Machine Communications in the Future Mobile Internet***

Jun Li (Rutgers University & Rutgers University, USA); Yanyong Zhang (Rutgers University, USA); Kiran Nagaraja (Rutgers University, USA); Dipankar Raychaudhuri (Rutgers University, USA)

### ***Future Challenges in Efficiently Supporting M2M in the LTE Standards***

Martin Beale (IPWireless Inc., United Kingdom)

### ***UWB channel modeling for objects evolving in impulsive environments***

Nourddine Azzaoui (Université Blaise Pascal, France); Clavier Laurent (IEMN & Institut TELECOM, TELECOM Lille 1, France)

**14:00 - 15:30**

## **S3: Application and Experiment**

Room: 304/305

Chair: Chonggang Wang (InterDigital Communications, USA)

### ***Bringing IoT to Hospital Logistics Systems***

Juan Rico (TST Sistemas, Spain); Bruno Cendón (TST Sistemas, Spain); Jorge Lanza (University of Cantabria, Spain); Javier Valiño (TST Sistemas, Spain)

### ***WebIoT: A Web Application Framework for the Internet of Things***

Angelo P. Castellani (University of Padova, Italy); Moreno Dissegna (University of Padova, Italy); Nicola Bui (University of Padova & Patavina Technologies, Italy); Michele Zorzi (Università degli Studi di Padova, Italy)

***Exploring Passenger Dynamics and Connectivities in Beijing Underground via Bluetooth Networks***

Rina Wu (Beijing University of Posts and Telecommunications, P.R. China); Yuan Cao (Lehigh University, USA); Chi Harold Liu (IBM Research - China, P.R. China); Pan Hui (Deutsche Telekom Laboratories & University of Cambridge, Germany); Li Li (IBM Research - China, P.R. China); Erwu Liu (Tongji University, P.R. China)

***Wireless Networks for Smart Surveillance: Technologies, Protocol Design and Experiments***

Milo Spadacini (Politecnico di Milano & Comelit S.p.A., Italy); Stefano Savazzi (CNR & Politecnico di Milano, Italy); Monica Nicoli (Politecnico di Milano, Italy); Sergio Nicoli (Comelit S.p.A. BG Italy, Italy)

***Secure Bootstrapping of Nodes in a CoAP Network***

Olaf Bergmann (Universitaet Bremen, Germany); Stefanie Gerdes (Universitaet Bremen, Germany); Silke Schäfer (Universitaet Bremen, Germany); Florian Junge (Universitaet Bremen, Germany); Carsten Bormann (Universität Bremen, Germany)

**16:00 - 17:30**

**S4: Energy-Efficiency**

Room: 304/305

Chairs: Robin Doss (Deakin University, Australia), Yan Zhang (Simula Research Laboratory and University of Oslo, Norway)

***Standardized Power-Efficient & Internet-Enabled Communication Stack for Capillary M2M Networks***

Nicola Accettura (Politecnico di Bari, Italy); Maria Rita Palattella (SnT, University of Luxembourg, Luxembourg); Mischa Dohler (CTTC, Spain); Luigi Alfredo Grieco (Politecnico di Bari, Italy); Gennaro Boggia (Politecnico di Bari, Italy)

***How Low Energy is Bluetooth Low Energy? Comparative Measurements with ZigBee/802.15.4***

Matti Siekkinen (Aalto University, Finland); Markus Hienkari (Aalto University, Finland); Jukka K. Nurminen (Aalto University, Finland); Johanna Maria Nieminen (Nokia Research Center, Finland)

***Energy Efficient Cooperative Scheduling based on Sleep-Wake Mechanisms***

Georgina Abou Elkheir (University of Piraeus, Greece); Athanasios Lioumpas (University of Piraeus, Greece); Angeliki Alexiou (University of Piraeus, Greece)

***Enhancing the Efficiency of Cluster-based Networks through MISO Techniques***

Petros S. Bithas (National Observatory of Athens, Greece); Athanasios Lioumpas (University of Piraeus, Greece); Angeliki Alexiou (University of Piraeus, Greece)

***Performance Evaluation of Radio Access Network overloading from Machine Type Communications in LTE-A Networks***

Ming-Yuan Cheng (National Taiwan University, Taiwan); Guan-Yu Lin (National Taiwan University, Taiwan); Hung-Yu Wei (NTU, Taiwan); Alex Hsu (MediaTek, Taiwan)

# W3 - IoT-ET 2012: WCNC 2012 Workshop on Internet of Things Enabling Technologies, Embracing Machine-to-Machine Communications and Beyond - Committees and Welcome

## Organizing Committee

### Co-Chair

Angeliki Alexiou (University of Piraeus, Greece)

Djelal Raouf (Sagemcom Energy&Telecom, France)

Chi Harold Liu (IBM Research - China, P.R. China)

Yan Zhang (Simula Research Lab, Norway)

func\_welcome(): message does not exist.

## Technical Program Committee

Angeliki Alexiou	University of Piraeus	Greece
Carles Antón-Haro	Centre Tecnologic de Telecomunicacions de Catalunya (CTTC)	Spain
Osman Aydin	Alcatel-Lucent	Germany
Payam Barnaghi	University of Surrey	United Kingdom
Mathias Boc	CEA, LIST, Communicating Systems Laboratory	France
Anthony Busson	University of Paris 11	France
Emilio Calvanese Strinati	CEA-LETI	France
Xianghui Cao	Zhejiang University	P.R. China
Nhon Chu	Sagemcom Energy&Telecom	France
Bruno Corlay	Sagemcom Energy&Telecom	France
Mérouane Debbah	Supelec	France
Hervé Ganem	Gemalto	France
Holger Karl	University of Paderborn	Germany
Srdjan Krco	University of Belgrade, Faculty of Organizational Sciences	Serbia
Massinissa Lalam	Sagemcom E&T	France
Thierry Lestable	Sagemcom SAS	France
Xu Li	INRIA Lille - Nord Europe	France
Stan Lin	Alcatel-Lucent	Ireland
Chi Harold Liu	IBM Research - China	P.R. China
Erwu Liu	Tongji University	P.R. China
Andreas Maeder	NEC Laboratories Europe	Germany
Francis Mullany	Alcatel-Lucent	Germany
Enrico Natalizio	INRIA Lille - Nord Europe	France



Pirabakaran Navaratnam	University of Surrey	United Kingdom
Alexandru Petrescu	Commissariat à l'Énergie Atomique	France
Djelal Raouf	Sagemcom Energy&Telecom	France
Peter Rost	NEC Laboratories Europe	Germany
Sushmita Ruj	University of Ottawa	Canada
Stephan Saur	Alcatel-Lucent Deutschland AG	Germany
Frank Schaich	Bell Labs, Alcatel-Lucent AG	Germany
Zhengguo Sheng	Orange Labs	France
Miguel Soriano	Technical University of Catalonia	Spain
Slawomir Stańczak	Fraunhofer Heinrich Hertz Institute	Germany
Stephan ten Brink	Alcatel-Lucent, Bell Laboratories	Germany
Vlasios Tsiatsis	Ericsson	Sweden
Eleftheria Vellidou	Vidavo	Greece
Véronique Vèque	University of Paris-Sud 11	France
Dan Wang	The Hong Kong Polytechnic University	Hong Kong
Wenjie Wang	IBM Research China	P.R. China
Stefan Wesemann	Technische Universität Dresden	Germany
Shuguang Xiong	IBM China Research Lab	P.R. China
Yan Zhang	Simula Research Laboratory and University of Oslo	Norway

# W4 - 4G Mobile Radio Access Networks: WCNC 2012 Workshop on 4G Mobile Radio Access Networks - Program

## Committees and welcome

### S1: Relaying

#### ***Using "Predictor Antennas" for Long-Range Prediction of Fast Fading for Moving Relays***

Mikael Sternad (Uppsala University, Sweden); Michael Grieger (Technische Universität Dresden, Germany); Rikke Apelfröjd (Uppsala University, Sweden); Tommy Svensson (Chalmers University of Technology, Sweden); Daniel Aronsson (Uppsala University, Sweden); Ana Belén Martínez (Technische Universität Dresden, Germany)  
pp. 253-257

#### ***A Simplified Equalization Method for Asynchronous Cooperative Relay Systems***

Yanxiang Jiang (Southeast University, P.R. China); Jun Xiao (Southeast University, P.R. China); Xiaohu You (Southeast University, P.R. China)  
pp. 258-262

#### ***A Novel Relay Selection Scheme for LTE-Advanced System under Delay and Load Constraints***

Imen Ben Chaabane (Supcom, Tunisia); Soumaya Hamouda (Ecole Supérieure des Communications de Tunis, Tunisia); Sami Tabbane (Sup Telecom, Tunisia)  
pp. 263-267

### S2: Multiuser MIMO

#### ***MIMO Truncated Shannon bound for system level capacity evaluation of wireless networks***

Alister G. Burr (University of York, United Kingdom); Agisilaos Papadogiannis (Chalmers University of Technology, Sweden); Tao Jiang (University of York, United Kingdom)  
pp. 268-272

#### ***On Greedy Stream Selection in MIMO BC***

Yohan Lejosne (EURECOM, France); Dirk Slock (Eurecom, France); Yi Yuan-Wu (Orange Labs, France)  
pp. 273-277

#### ***Distributed Beamforming Approach to Full-Duplex Relay in Multiuser MIMO Transmission***

Jong-Ho Lee (Gachon University, Korea); Oh-Soon Shin (Soongsil University, Korea)  
pp. 278-282

***A Practical Precoding Scheme for Multicell MIMO Channels with Partial User's Data Sharing***

Paul de Kerret (EURECOM, France); Rajeev Gangula (EURECOM, France);  
David Gesbert (Eurecom, France)  
pp. 283-287

### **S3: European Research**

***Keynote Speech: Roadways for Advancing Cellular Communications***

Gerhard Fettweis (Technische Universität Dresden, Germany)

***Multi-User MIMO and Carrier Aggregation in 4G Systems: the SAMURAI Approach***

Andrea F. Cattoni (Aalborg University, Denmark); Hung Tuan Nguyen (Aalborg University, Denmark); Jonathan Duplcy (Agilent, Belgium); Deepaknath Tandur (Agilent Technologies, Belgium); Biljana Badic (Intel, Germany); Rajarajan Balraj (Intel Mobile Communications, Germany); Florian Kaltenberger (Eurecom, France); Imran Latif (Eurecom Institute & Telecom ParisTech, France); Ankit Bhamri (Institute Eurecom, Sophia Antipolis & Aalto University School of Science and Technology, Espoo, France); Guillaume Vivier (Sequans, France); Istvan Z. Kovács (Nokia Siemens Networks, Denmark); Péter Horváth (Budapest University of Technology and Economics, Hungary)  
pp. 288-293

***Interference Avoidance with Dynamic Vertical Beamsteering in Real Deployments***

Hardy Halbauer (Alcatel-Lucent Deutschland AG, Germany); Stephan Saur (Alcatel-Lucent Deutschland AG, Germany); Johannes Koppenborg (Alcatel-Lucent Deutschland AG, Germany); Cornelis Hoek (Alcatel-Lucent Deutschland AG, Germany)  
pp. 294-299

### **S4: Interference in 4G Networks**

***An Analytical View of Static Intercell Interference Coordination Techniques in OFDMA Networks***

David González G (Universitat Politècnica de Catalunya, Spain); Mario Garcia-Lozano (Universitat Politècnica de Catalunya, Spain); Silvia Ruiz Boqué (UPC, Spain); Joan Olmos (Universitat Politècnica de Catalunya, Spain)  
pp. 300-305

***Centralized Interference Coordination in Relay-Enhanced Networks***

Guenther Liebl (Nomor Research GmbH, Germany); Thiago Martins de Moraes (Nomor Research GmbH, Germany); Arturo A. Gonzalez Rodriguez (Nomor Research GmbH, Germany); Muhammad Danish Nisar (Nomor Research GmbH & Technical University Munich, TUM, Germany)  
pp. 306-311

***A Location-Aided Teletraffic Measurement Scheme for Optimizing the Locations of Fixed Relay Nodes***

Du Yang (Institution of Telecommunications, Portugal); Shahid Mumtaz (IT, Portugal); Joaquim Bastos (Instituto de Telecomunicações, Portugal); Jonathan Rodriguez (Instituto de Telecomunicações, Portugal)

pp. 312-316

***On the Modeling of Uplink Inter-Cell Interference based on Proportional Fair Scheduling***

Hina Tabassum (KAUST, Saudi Arabia); Ferkan Yilmaz (King Abdullah University of Science and Technology, Saudi Arabia); Zaher Dawy (American University of Beirut, Lebanon); Mohamed-Slim Alouini (King Abdullah University of Science and Technology (KAUST), Saudi Arabia)

pp. 317-321

# W4 - 4G Mobile Radio Access Networks: WCNC 2012 Workshop on 4G Mobile Radio Access Networks - Committees and Welcome

## Organizing Committee

### Co-Chair

Alexandre P.J. Gouraud (France Telecom, France)

Ronald Raulefs (German Aerospace Center (DLR), Germany)

Jonathan Duplicy (Agilent, Belgium)

func\_welcome(): message does not exist.

## Technical Program Committee

Joaquim Bastos	Instituto de Telecomunicações	Portugal
Mauro Boldi	Telecom Italia	Italy
Stefan Brueck	Qualcomm CDMA Technologies	Germany
Andrea Cattoni	Aalborg University	Denmark
Valeria D'Amico	Telecom Italia	Italy
Armin Dammann	German Aerospace Center (DLR)	Germany
Fabian Diehm	Technische Universität Dresden	Germany
Jonathan Duplicy	Agilent	Belgium
Michael Färber	Nokia Siemens Networks	Germany
David Gesbert	Eurecom	France
Alexandre Gouraud	France Telecom	France
Michael Grieger	Technische Universität Dresden	Germany
Peng Guan	Dresden University of Technology	Germany
Yi Ma	University of Surrey	United Kingdom
Oleg Marinchenko	Alvarion	Belgium
Werner Mohr	Nokia Siemens Networks	Germany
Valdemar Monteiro	Instituto de Telecomunicações	Portugal
Jimmy Nielsen	Aalborg University	Denmark
Claude Oestges	Université Catholique de Louvain	Belgium
Ronald Raulefs	German Aerospace Center (DLR)	Germany
Peter Rost	NEC Laboratories Europe	Germany
Stephan Sand	German Aerospace Center (DLR)	Germany
Hendrik Schoeneich	Qualcomm CDMA Technologies GmbH	Germany
Dirk Slock	Eurecom	France
Himal Suraweera	Singapore University of Technology and Design	Singapore
Stephan ten Brink	Alcatel-Lucent, Bell Laboratories	Germany
Petra Weitkemper	DOCOMO Euro-Labs	Germany
Du Yang	Institution of Telecommunications	Portugal

# W5 - Wireless Vehicular Communications and Networks: WCNC 2012 Workshop on Wireless Vehicular Communications and Networks - Program

## Committees and welcome

Sunday, April 1

09:00 - 10:30

### S1: Challenges & real world experimentation

Room: 326/327

Chair: Piotr Szczechowiak (Telcordia Poland, Poland)

**Keynote 1 - Vehicular Communications: What lies ahead?**

Onur Altintas (Toyota InfoTechnology Center, Japan)

**Getting the message about road safety'' &&**

Christopher Wright (Middlesex University, United Kingdom); Zory Marantz (NYC College of Technology, USA); Penina Orenstein (Seton Hall University, USA)

**To Live and Drive in L.A.: Measurements from A Real Intervehicular Accident Alert Test'' &**

Alessandro Amoroso (University of Bologna, Italy); Gustavo Marfia (Università di Bologna, Italy); Marco Rocchetti (University of Bologna, Italy); Giovanni Pau (UCLA, USA)

**Experiences with UHF Bands for Content Downloading in Vehicular Networks'' ''**

Carlo Borgiattino (Politecnico di Torino, Italy); Claudio E. Casetti (Politecnico di Torino, Italy); Carla-Fabiana Chiasserini (Politecnico di Torino, Italy); Nazario Di Maio (CSP, Italy); Andrea Ghittino (CSP, Italy); Massimo Reineri (Politecnico di Torino, Italy)

11:00 - 12:30

### S2: Mobility in vehicular communication networks

Room: 326/327

Chair: Yacine Ghamri-Doudane (ENSIIE & Université Paris-Est (LIGM Lab), France)

**Seamless Data Offload and Flow Mobility in Vehicular Communications Networks**

Christian Makaya (Telcordia Technologies, USA); Subir Das (Telcordia Technologies, USA); Fuchun Joseph Lin (Telcordia Technologies & Ericsson, USA)

**A Solution for Mobile DTN in a Real Urban Scenario**

Amir Bujari (University of Padua, Italy); Claudio E. Palazzi (University of Padua, Italy); Dario Maggiorini (University of Milano, Italy); Christian Quadri (University of Milano, Italy); Gian Paolo Rossi (Università degli Studi di Milano, Italy)

**On the Role of Vehicular Mobility in Cooperative Content Caching**

Osama Attia (Nile University, Egypt); Tamer ElBatt (Nile University, Egypt)

**Analysis of Operational 3G Network Characteristics for Adaptive Vehicular Connectivity Maps**

Tobias Pögel (Technische Universität Braunschweig, Germany); Lars C Wolf (Technische Universität Braunschweig, Germany)

**How Virtual Police Agents Can Help in The Traffic Guidance?**

Arturo Gomez (University of Paris 13 & Institut Galilee, France); Gladys Diaz (University of Paris 13 & L2TI, Institut Galilee, France); Khaled Boussetta (University of Paris 13, France)

**14:00 - 15:30**

**S3: Performance evaluation in vehicular communication networks**

Room: 326/327

Chair: John Fitzpatrick (University College Dublin, Ireland)

**Keynote 2 - iTETRIS: Roads to the Future Open for Simulation**

Oscar Lazaro (Innovalia, Spain)

**The Effects of Quality of Service on Vehicular Network Pseudonym Distribution in Congested Urban Environments**

Joseph Benin (Georgia Institute of Technology & United States Coast Guard Academy, USA); Michael Nowatkowski (United States Military Academy at West Point, USA); Henry Owen (Georgia Institute of Technology, USA)

**Prototyping Telematic Services in a Wireless Vehicular Mesh Network Environment**

Cristian Olariu (Waterford Institute of Technology, Ireland); Adriana Hava (UCD, Ireland); Piotr Szczechowiak (Telcordia Poland, Poland); Yacine Ghamri-Doudane (ENSIE & Université Paris-Est (LIGM Lab), France)

***A Novel Bandwidth Estimation Algorithm for IEEE 802.11 TCP Data Transmissions*** , ,

Zhenhui Yuan (Dublin City University, Ireland); Hrishikesh Venkataraman (Dublin City University & Performance Engineering Laboratory, Ireland); Gabriel-Miro Muntean (Dublin City University, Ireland)

**16:00 - 17:30**

**S4: PHY & MAC in vehicular communication networks**

Room: 326/327

Chair: Sean Murphy (University College Dublin, Ireland)

***Interference Aware Throughput Measurements for Mobile WiMAX over Vehicular Radio Channels*** , ,

Bjoern Dusza (TU Dortmund University, Germany); Christoph Ide (TU Dortmund University, Germany); Christian Wietfeld (TU Dortmund University, Germany)

***Towards Real-Time Media Access in Vehicular Ad-Hoc Networks*** , ,

Steffen Moser (Ulm University, Germany); Jochen Weiß (Ulm University, Germany); Frank Slomka (Ulm University, Germany)

***Intra-vehicle UWB MIMO Channel Capacity*** , -

Han Deng (Oakland University, USA); Liuqing Yang (Colorado State University, USA); Jia Li (Oakland University, USA); Tim Talty (General Motors, USA)

***Modeling Nakagami Hoyt Mobile to Mobile Fading Channel with Diffused Line of Sight*** , - ,

Muhammad Akram (King Fahd University of Petroleum and Minerals Dhahran, Saudi Arabia); Asrar U. Sheikh (King Fahd University of Petroleum and Minerals, Saudi Arabia)



# W5 - Wireless Vehicular Communications and Networks: WCNC 2012 Workshop on Wireless Vehicular Communications and Networks - Committees and Welcome

## Organizing Committee

### Executive Committee

#### Co-Chair

Raquel Morera (Verizon, USA)

Maode Ma (Nanyang Technological University, Singapore)

Hamid Nafaa (University College Dublin, Ireland)

func\_welcome(): message does not exist.

### Technical Program Committee

Mosa Abu-Rgheff	University of Plymouth	United Kingdom
Toufik Ahmed	University of Bordeaux-1 / CNRS-LaBRI	France
Onur Altintas	Toyota InfoTechnology Center	Japan
Saadi Boudjit	University of Paris 13	France
Khaled Boussetta	University of Paris 13	France
Celeste Campo	University Carlos III of Madrid	Spain
Joaquim Celestino Júnior	State University of Ceará	Brazil
Chih-Yung Chang	Tamkang University	Taiwan
Jiann-Liang Chen	National Taiwan University of Science and Technology	Taiwan
Tzung-Shi Chen	National University of Tainan	Taiwan
Chyi-Ren Dow	Feng Chia University	Taiwan
Haikal El Abed	Technische Universität Braunschweig	Germany
Jaafar Elmirghani	University of Leeds	United Kingdom
Thierry Ernst	Mines ParisTech	France
Andreas Festag	NEC Laboratories Europe	Germany
Marco Fiore	INSA Lyon	France
John Fitzpatrick	University College Dublin	Ireland
Yacine Ghamri-Doudane	ENSIIE & Université Paris-Est (LIGM Lab)	France
Javier Gozalvez	Universidad Miguel Hernandez de Elche	Spain
An He	Qualcomm	USA
Lyes Khokhi	University of Technology of Troyes	Canada
Rolf Kraemer	IHP Microelectronics, Frankfurt/Oder	Germany
Anis Laouiti	TELECOM SudParis	France

Supeng Leng	University of Electronic Science and Technology of China	P.R. China
Maode Ma	Nanyang Technological University	Singapore
Pietro Manzoni	Universidad Politécnica de Valencia	Spain
Barbara Masini	IEIT-CNR	Italy
Martin Mauve	Heinrich Heine University Düsseldorf	Germany
Raquel Morera	Verizon	USA
Hamid Nafaa	University College Dublin	Ireland
Sooksan Panichpapiboon	King Mongkut's Institute of Technology Ladkrabang	Thailand
Joel Rodrigues	Instituto de Telecomunicações, University of Beira Interior	Portugal
Björn Scheuermann	University of Bonn	Germany
Sidi-Mohammed Senouci	University of Bourgogne - ISAT Nevers	France
M. Shawky	Heudiasyc	France
Piotr Szczechowiak	Telcordia Poland	Poland
Hideki Tode	Osaka Prefecture University	Japan
Chai Keong Toh	Tsing Hua Taiwan	P.R. China
Ozan Tonguz	Carnegie Mellon University	USA
Fredrik Tufvesson	Lund University	Sweden
Marek Tłuczek	Telcordia Poland	Poland
Rolland Vida	Budapest University of Technology and Economics	Hungary
Naixue Xiong	Georgia State University, US	USA
Jianhua Zhang	Beijing University of Posts and Telecommunications	P.R. China

# W7 - Wireless Cloud and White Space Oriented Networks: WCNC 2012 Workshop on Wireless Cloud and White Space Oriented Networks - Program

## Committees and welcome

Sunday, April 1

14:00 - 15:30

### S1: Standards and Projects

Room: 322

Chair: Lee Pucker (The Wireless Innovation Forum (SDR Forum Version 2.0), Canada)

***Standards for DSA System Implementation: A Harmonized Requirements Approach***

Lee Pucker (The Wireless Innovation Forum (SDR Forum Version 2.0), Canada)

***ETSI Reconfigurable Radio System - System Aspects and Control Channels for Cognitive Radio***

Jens Gebert (Alcatel-Lucent Bell Labs, Germany); Markus Dominik Mueck (Intel Mobile Communications, Germany); Pierre-Jean Muller (Huawei Technologies, France); Päivi Ruuska (Nokia, Finland)

***Technical Work of the ICT-ACROPOLIS Network of Excellence in its First Year***

Oliver D Holland (King's College London, United Kingdom); Hanna Bogucka (Poznan University of Technology, Poland); Maria Gabriella Di Benedetto (University of Rome La Sapienza Italy, Italy); Liljana Gavrilovska (Ss Cyril and Methodius University - Skopje, Macedonia, the former Yugoslav Republic of); Kamil Chudas (Wroclaw Research Centre EIT+, Poland)

16:00 - 17:30

### S2: System Design

Room: 322

Chair: Mikio Hasegawa (Tokyo University of Science, Japan)

***Autonomous Optimization Techniques for Cognitive Dynamic Wireless Systems***

Mikio Hasegawa (Tokyo University of Science, Japan); Yohsuke Kon (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)

***A Conceptual Model and Prototype of Cognitive Radio Cloud Networks in TV White Spaces*** ( &)

Sau-Hsuan Wu (National Chiao Tung University, Taiwan); Hsi-Lu Chao (National Chiao Tung University, Taiwan); Chang-Ting Jiang (National Chiao Tung University, Taiwan); Shang-Ru Mo (National Chiao Tung University, Taiwan); Chun-Hsien Ko (National Chiao Tung University, Taiwan); Tzung-Lin Li (National Chiao Tung University, Taiwan); Chiau-Feng Liang (National Chiao Tung University, Taiwan); Chung Chieh Cheng (National Chiao Tung University, Taiwan)

***Cognitive cloud-oriented wireless networks for the Future Internet*** ( ' %

Andreas Georgakopoulos (University of Piraeus, Greece); Dimitrios Karvounas (University of Piraeus, Greece); Vera Stavroulaki (University of Piraeus, Greece); Milenko Tošić (La Citadelle Inzenjering, Serbia); Dragan Boscovic (LaCitadelle Inzenjering, Serbia); Jens Gebert (Alcatel-Lucent Bell Labs, Germany); Wolfgang Koenig (Bell Labs, Alcatel-Lucent, Germany); Panagiotis Demestichas (University of Piraeus, Greece)

***System Design to Enable Coexistence in TV White Space*** ( ' \*

Tuncer Baykas (National Institute of Information and Communications Technology, Japan); Junyi Wang (NICT, Japan); Stanislav Anatolievich Filin (NICT, Japan); Hiroshi Harada (National Institute of Information & Communications Technology (NICT), Japan)

# W7 - Wireless Cloud and White Space Oriented Networks: WCNC 2012 Workshop on Wireless Cloud and White Space Oriented Networks - Committees and Welcome

## Organizing Committee

### Co-Chair

Hiroshi Harada (National Institute of Information & Communications Technology (NICT), Japan)

Ying-Chang Liang (Institute for Infocomm Research, Singapore)

func\_welcome(): message does not exist.

## Technical Program Committee

Tuncer Baykas	National Institute of Information and Communications Technology	Japan
Bernd Bochow	Fraunhofer FOKUS	Germany
Panagiotis Demestichas	University of Piraeus	Greece
Stanislav Filin	NICT	Japan
Michael Fitch	BT Exact	United Kingdom
Hiroshi Harada	National Institute of Information & Communications Technology (NICT)	Japan
Mikio Hasegawa	Tokyo University of Science	Japan
Oliver Holland	King's College London	United Kingdom
Omer Ileri	Tübitak	Turkey
Hyunduk Kang	Electronics and Telecommunications Research Institute (ETRI)	Korea
Mika Kasslin	Nokia Mobile Phones	Finland
Eunsun Kim	LG Electronic	Korea
Per Lehne	Telenor Group Industrial Development	Norway
Ying-Chang Liang	Institute for Infocomm Research	Singapore
Boya Lu	Huawei	P.R. China
Klaus Moessner	University of Surrey	United Kingdom
Markus Dominik Mueck	Intel Mobile Communications	Germany
Dominique Noguet	CEA LETI	France
Lee Pucker	The Wireless Innovation Forum (SDR Forum Version 2.0)	Canada
Shigenobu Sasaki	Niigata University	Japan
Stephen Shellhammer	Qualcomm	USA
Junyi Wang	NICT	Japan

Lin Wang	ZTE	P.R. China
Abbas Yongacoglu	University of Ottawa	Canada