



PIMRC'11

**2011 IEEE 22nd International Symposium on Personal, Indoor and Mobile Radio Communications Program**



SL-1: The last paper presentation ends before (11:42) the session end time of 12:00.

CRSM-11: The last paper presentation ends before (17:10) the session end time of 17:30.

WACC-27: The last paper presentation ends before (11:42) the session end time of 12:00.

Time	Frontenac	Harbour A	Harbour B	Harbour C	Marine	Pier 2	Pier 3	Pier 4	Pier 5	Pier
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**Sunday, September 11**

09:00		Workshop 4-1: <i>International Workshop on Wireless Distributed Networks (Sensing)</i>	Workshop 3-1: <i>W-Green 1: The 'Key' to Next Generation of Mobile Radio Access and Networks Technologies</i>					Tutorial 1: <i>Interference Management in Femtocell Networks</i>	Tutorial 3: <i>Localization and Communication - Theory, Algorithms and Benefits of Localization in Wireless Networks</i>	
10:30							Coffee Break			
11:00		Workshop 4-2: <i>International Workshop on Wireless Distributed Networks (Network)</i>	Workshop 3-2: <i>W-Green 2: The 'Key' to Next Generation of Mobile Radio Access and Networks Technologies</i>					Tutorial 1: <i>Interference Management in Femtocell Networks</i>	Tutorial 3: <i>Localization and Communication - Theory, Algorithms and Benefits of Localization in Wireless Networks</i>	
14:00		Workshop 4-3: <i>International Workshop on Wireless Distributed Networks (Cooperation)</i>	Workshop 3-3: <i>W-Green 3: The 'Key' to Next Generation of Mobile Radio Access and Networks Technologies</i>	Workshop 2-1: <i>ICT-ACROPOLIS Network of Excellence Workshop on "Cognitive Radio and Networking: Challenges and Solutions Ahead"</i>				Tutorial 2: <i>Interference Alignment : A New Look at Signal Dimensions in Interference Networks</i>	Tutorial 4: <i>Mobile Radio Channel Sounding, Data Analysis and Radio Channel Modelling</i>	
15:30							Coffee Break			
16:00		Workshop 4-4: <i>International Workshop on Wireless Distributed Networks (Sensor Network)</i>	Workshop 3-4: <i>W-Green 4: The 'Key' to Next Generation of Mobile Radio Access and Networks Technologies</i>	Workshop 2-2: <i>ICT-ACROPOLIS Network of Excellence Workshop on "Cognitive Radio and Networking: Challenges and Solutions Ahead"</i>				Tutorial 2: <i>Interference Alignment : A New Look at Signal Dimensions in Interference Networks</i>	Tutorial 4: <i>Mobile Radio Channel Sounding, Data Analysis and Radio Channel Modelling</i>	
18:30	Welcome Reception									

**Monday, September 12**

08:30	PL-1: <i>Conference Opening and Plenary Talks - David Belanger and Victor Bahl</i>									
10:00							Coffee Break			
10:30	Panel 1: <i>Femtocells &amp; WiFi: Towards Cost efficient Ubiquitous Broadband</i> Lunch: <i>Will be served in Frontenac</i>	WACC-01: <i>Cooperative Communications - I</i>	WACC-02: <i>Radio Resource Management - I</i>	WACC-03: <i>OFDM - I</i>	CRSM-2: <i>Cooperative Spectrum Sensing</i>	WACC-04: <i>Interference Management - I</i>	SL-1: <i>Wireless Communications Security</i>	AID-1: <i>Femtocell Systems I</i>	AID-2: <i>Traffic Management/Resource Allocation</i>	WNH WNH Chan Mode PHY
13:30			Keynote 1: <i>P. R. Kumar (University of Illinois, Urbana-Champaign)</i>					Keynote 2: <i>Ted Rappaport (University of Texas at Austin)</i>		
14:15							Break			
14:30	Panel 2: <i>Standardization, Technology, and</i>	WACC-05: <i>Channel Modeling,</i>	WACC-06: <i>Relay Assisted Communications</i>	WACC-07: <i>MIMO Techniques - I</i>	CRSM-4: <i>Spectrum Access,</i>	ITN-1: <i>Networking</i>	SL-2: <i>TOA-Based Localization</i>	WWRP <i>Special Session - Machine to</i>	AID-3: <i>Autonomous Infrastructure Networks</i>	WNH WNH Tech

	<i>Challenge For Body Area Network</i>	<i>Estimation and Equalization - I</i>	<i>- I</i>		<i>Sharing and Allocation</i>		<i>Systems</i>	<i>machine communications: Trends, challenges, design principles, and research directions, WWRF Special Session 1: Machine to Machine Communications: Trends, Challenges, Design Principles and Research Directions</i>	<i>Appli &amp; Se</i>
16:00							<i>Coffee Break</i>		
16:30		<i>WACC-08: Diversity Techniques - I</i>	<i>WACC-09: Cross Layer Design - I</i>	<i>WACC-10: Energy Efficient Design</i>	<i>CRSM-6: Interference Management</i>	<i>WACC-11: Smart Antenna Systems</i>	<i>SL-3: RSS-Based Localization Methods</i>	<i>WWRF Special Session - Continued, WWRF - Special Session 2: Wireless World Research Forum (WWRF) - Machine to Machine Communications: Trends, Challenges, Design Principles and Research Directions</i>	<i>WNH WNH MAC Cros: Desig</i>

**Tuesday, September 13**

09:00	<i>PL-2: Plenary Talks - Henri Tirri and Wen Tong</i>									
10:00							<i>Coffee Break</i>			
10:30	<i>Panel 3: Which will be the Winning Technologies for the Networks of the Future?</i>	<i>WACC-12: Cooperative Communications - II</i>	<i>WACC-13: Radio resource management - II</i>	<i>WACC-14: OFDM - II</i>	<i>CRSM-8: Radio Resource Allocation and Management</i>	<i>WACC-15: Analysis, Simulation and Performance Evaluation - I</i>	<i>SL-4: Wireless Network Security</i>	<i>AID-5: Femtocell Systems II</i>	<i>AID-6: Receiver Issues</i>	<i>WNH WNH Chan Mode PHY</i>
12:00	<i>Lunch</i>									
13:30			<i>Keynote 3: Dipankar Raychaudhuri (WINLab)</i>					<i>Keynote 4: Sergio Verdu (Princeton University)</i>		
14:15							<i>Break</i>			
14:30	<i>Panel 4: Heterogeneous Networks</i>	<i>WACC-16: Channel Modeling, Estimation and Equalization - II</i>	<i>WACC-17: Relay Assisted Communications - II</i>	<i>WACC-18: MIMO Techniques - II</i>	<i>CRSM-10: Estimation and Detection Techniques</i>	<i>ITN-2: Field Operational Tests, Applications, Intelligent Transportation Systems</i>	<i>SL-5: INS, Dead-Reckoning, and Vehicular Localization</i>	<i>WACC-19: Modulation and Coding - I</i>	<i>AID-7: LTE Networks</i>	<i>WNH WNH Techn Appli &amp; Se II</i>
16:00							<i>Coffee Break</i>			
16:30		<i>WACC-20: Diversity Techniques - II</i>	<i>WACC-21: Cross Layer Design - II</i>	<i>WACC-22: Multiple Access Techniques - I</i>	<i>CRSM-12: Opportunistic Spectrum Access</i>	<i>ITN-3: ITS Networks and Networking Technologies</i>	<i>SL-6: Secrecy Capacity of Wireless Communications</i>	<i>WACC-23: Routing and Scheduling - I</i>	<i>AID-8: MAC and Higher Layer</i>	<i>WNH WNH MAC Cros: Desig</i>

**Wednesday, September 14**

09:00	<i>PL-3: Plenary Talks - Jalal Mapar and Riuji Kohno</i>									
10:00							<i>Coffee Break</i>			
10:30	<i>Panel 5: How to make Mobile Cellular Communications even Greener?</i>	<i>WACC-24: Cooperative Communication - III</i>	<i>WACC-25: Radio Resource Management - III</i>	<i>WACC-26: Interference Management - II</i>	<i>CRSM-14: Performance Modeling and Analysis</i>	<i>WACC-27: Analysis, Simulation and Performance Evaluation - II</i>	<i>SL-7: Localization</i>	<i>WACC-28: Routing and Scheduling - II</i>	<i>AID-9: Femtocell Systems III</i>	<i>WNH WNH Wirel Sens Netw MAN</i>
12:00	<i>Lunch</i>									

13:30	WACC-29: <i>Channel Modeling, Estimation and Equalization - III</i>	Panel 6: <i>Mobile Internet for the Emerging Economies</i>	WACC-30: <i>Relay Assisted Communications - III</i>	CRSM-16: <i>Cognitive Radio Resource Management</i>	WACC-31: <i>MIMO Techniques - III</i>	SL-8: <i>Cooperative Localization Methods</i>	WACC-32: <i>Modulation and Coding - II</i>	AID-10: <i>Self-Configuration Techniques</i>	WAC <i>Multit and Coop</i>
15:00						Coffee Break			
15:30	WACC-33: <i>Multiple Access Techniques - II</i>	WACC-34: <i>Antenna and Propagation</i>	WACC-35: <i>Modulation and Coding - III</i>	CRSM-18: <i>Spectrum Sensing, Access and Management</i>	ITN-4: <i>Radio Technologies, ITS Communications</i>	WACC-36: <i>Field Tests and Measurements</i>	WACC-37: <i>Wireless IP and Multimedia Services</i>	AID-12: <i>Cooperative Techniques</i>	

## Sunday, September 11

**09:00 - 10:30**

### Tutorial 1: Interference Management in Femtocell Networks

Presenters: Ekram Hossain, Long Bao Le

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

Presenters: Giuseppe Abreu, Giuseppe Destino, Davide Macagnano

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

Invited Speaker Session

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

*New Vision for the World of Wireless Communications Enabled with Cognition*  
S. Haykin

*Cyclostationary spectrum sensing under four-level hypothesis for spectrum sharing*  
K. Umehayashi, J. Lehtomäki, S. Hatakeyama and Y. Suzuki

*Spectrum Metrics for 2.4 GHz ISM Band Cognitive Radio Applications*  
S. Hanna and J. Sydor

**10:30 - 11:00**

Coffee Break

**11:00 - 12:30**

### Tutorial 1: Interference Management in Femtocell Networks

Presenters: Ekram Hossain, and Long Bao Le

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

Presenters: Giuseppe Abreu, Giuseppe Destino, Davide Macagnano

### Workshop 3-2: W-Green 2: The 'Key' to Next Generation of Mobile Radio Access and Networks Technologies

*Opportunities for Energy Savings in Mobile Devices*  
P. Ljung

*Energy-Aware Adaptive Sectorisation in LTE Systems*  
Y. Qi, M. A. Imran and R. Tafazolli

*Trade-off between Energy Efficiency and Spectral Efficiency in the Uplink of a Linear Cellular System with Uniformly Distributed User Terminals*  
O. Onireti, F. Hélot and M. A. Imran

*Power Saving Potential in Heterogeneous Cellular Mobile Networks*  
A. Vidács and I. Gódor

### Workshop 4-2: International Workshop on Wireless Distributed Networks (Network)

*Two-Level Channel Coding for Cooperative Wireless Networks Based on WIMAX LDPC codes*  
R. Morelos-Zaragoza and N. D'Souza

*Cross-Layer Designed Adaptive Packet Length Control for Wireless Networks*  
S. Mori, K. Ishii and S. Ogose

*Distributed Self-Optimization for Efficient Reconfiguration in Overlapping Heterogeneous Wireless Access Networks*  
D. Fan, X. Wang and P. Mi

*Fundamental Study on Adaptive ACK Link Control for Downloading based on TCP Connection in Mobile Wireless Communication*  
O. Takyu, Y. Seki, T. Yamasaki, T. Fujii, Y. Umeda, X. Wang and S. Konishi

**14:00 - 15:30**

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

Presenters: Syed Ali Jafar

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

Presenters Robert Bultitude, Sana Salous

**Tutorial 5: Enabling Opportunistic Spectrum Access: White Space Databases and Spectrum Sensing**

Presenters: Claudio da Silva, Marina Petrova

**Workshop 2-1: ICT-ACROPOLIS Network of Excellence Workshop on "Cognitive Radio and Networking: Challenges and Solutions Ahead"*****Spectrum Sensing in Cognitive Femto Base Stations Using Welch Periodogram***

I. Harjula and A. Hekkala

***Statistical Models of Spectrum Opportunities for Cognitive Radio***

K. Arshad and K. Moessner

***Multiband Time-of-Arrival positioning technique for Cognitive radio systems***

R. Thomas, B. Zayen, R. Knopp and B. Maharaj

***Scenario-based Regulatory Requirements for Cognitive Radio***

M. Barrie, S. Delaere and P. Ballon

***Optimal Resource Allocation in Multi-Relay Cognitive Networks Using Dual Decomposition***

M. Shaat and F. Bader

**Workshop 3-3: W-Green 3: The 'Key' to Next Generation of Mobile Radio Access and Networks Technologies*****Power Savings in Mobile Networks by Dynamic Base Station Sectorization***

L. Hévizsi and I. Gódor

***Energy saving potential of integrated hardware and resource management solutions for wireless base stations***

A. Ambrosy, O. Blume, H. Klessig and W. Wajda

***Green Scheduling to minimize Base station Transmit power and UE circuit power consumption***

R. Gupta and E. Calvanese Strinati

***Minimal Average Consumption Downlink Base Station Power Control Strategy***

H. Holtkamp, G. Auer and H. Haas

**Workshop 4-3: International Workshop on Wireless Distributed Networks (Cooperation)*****Vision for Beyond 4G Broadband Radio Systems***

B. Raaf, W. Zirwas, K. J. Friederichs, E. Tirola, M. Laitila, P. Marsch and R. Wichman

***A Study on Beam Tilt Angle of Base Station Antennas for Base Station Cooperation Systems***

D. Sugimura, M. Arai, K. Sakaguchi, K. Araki and T. Sotoyama

***A Bit Interleaved Repetition Coded Base Station Cooperation for Downlink OFDM Signaling***

B. Yuan, S. Ibi and S. Sampei

**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

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

Presenters Robert Bultitude, Sana Salous

**Tutorial 5: Enabling Opportunistic Spectrum Access: White Space Databases and Spectrum Sensing**

Presenters: Claudio da Silva, Marina Petrova

**Workshop 2-2: ICT-ACROPOLIS Network of Excellence Workshop on "Cognitive Radio and Networking: Challenges and Solutions Ahead"*****High-Level Scenarios for the Future of Cognitive Radio Business***

A. Medeisis and S. Delaere

**Workshop 3-4: W-Green 4: The 'Key' to Next Generation of Mobile Radio Access and Networks Technologies**

A panel discussion on the issues related to Green Communications

**16:00 - 17:00**

**Workshop 4-4: International Workshop on Wireless Distributed Networks (Sensor Network)*****Cooperative Transmission Scheme with Inactive Node Reactivation Condition for Solar-Powered Wireless Sensor Networks***

K. Ota, K. Kobayashi, T. Yamazato and M. Katayama

***Disjoint Trajectory in Wireless Sensor Networks with Two Mobile Sinks***

Y. Kato and F. Ono

**18:30 - 20:30****Welcome Reception****Monday, September 12****08:30 - 10:00****PL-1: Conference Opening and Plenary Talks - David Belanger and Victor Bahl****10:00 - 10:30****Coffee Break****10:30 - 12:00****AID-1: Femtocell Systems I*****Network Listening based Synchronization techniques for Femtocell Systems***

P. Amin and O. Tirkkonen

***Facilitating Active Hand-in using Out-of-Band Link at Femtocell***

S. Das, P. Tinnakornsrisuphap, D. Ott and S. Soliman

***Throughput-Based Incentives for Residential Femtocells***

R. Di Taranto and C. Rosenberg

***Uplink Interference Management Techniques for 3G Femtocells***

Y. Zhou, F. Meshkati, V. Makh, Y. Tokgoz and M. Yavuz

***Utilizing Femtocells for Peer-to-Peer File Sharing in Cellular Networks***

M. Macuha, Y. Y. Li and T. Sato

**AID-2: Traffic Management/Resource Allocation*****A Semantic Agglomerative Traffic Management Framework for Ubiquitous Public Safety Networks***

N. Ahmed Surobhi, Y. Ma and A. Jamalipour

***Resource Allocation Using Shapley Value in LTE***

M. Iturralde, T. Ali Yahya, A. Wei and A. L. Beylot

***Towards a Fair Non-convex Resource Allocation in Wireless Networks***

G. Tychogiorgos, A. Gkelias and K. K. Leung

***Adaptive Traffic Load-Balancing for Green Cellular Networks***

L. Xiang, F. Pantisano, R. Verdone, X. Ge and M. Chen

***Transmission Power Adaptation According to the Message Length for Wireless Sensor Networks***

D. Dessales

**CRSM-1: Wideband Spectrum Sensing*****Optimized Bases Compressive Spectrum Sensing for Wideband Cognitive Radio***

M. Farrag, M. El-Khamy and M. El-Sharkawy

***Optimal Wideband Spectrum Sensing Based on MTM with Adaptive Number of Sensors***

L. Huang, Li Li, J. Zhang and J. Liu

***Novel Spectrum Edge Detection Techniques in Wideband Spectrum Sensing of Cognitive Radio***

Y. Miar and C. D'Amours

***Reduced Complexity Multiband Multi-Sensor Spectrum Sensing***

C. K. Liang and S. Blostein

***Optimal Energy Tradeoff for Active Sensing in Cognitive Radio Networks***

T. V. Nguyen, H. Shin, T. Q. S. Quek and M. Win

**CRSM-2: Cooperative Spectrum Sensing*****Convex Sensing-Reporting Optimization for Cooperative Spectrum Sensing***

A. Noel and R. Schober

***Performance Limitations for Cooperative Spectrum Sensing with Reporting Channel Errors***

S. Chaudhari, J. Lundén and V. Koivunen

**Collaborative Channel Search in Cognitive Radio Networks**

S. Fazeli Dehkordy, K. Plataniotis and S. Pasupathy

**A Low Complexity Multi-Threshold Centralized Detection Strategy for Cooperative Spectrum Sensing**

B. Abbasi Bastami and E. Saberinia

**A Weighted Fusion Scheme for Cooperative Spectrum Sensing based on Past Decisions**

L. Khalid and A. Anpalagan

**LPAN-1: Physical Layer Design - 1****Throughput Sensitivity to Antenna Pattern and Orientation in 802.11n Networks**

Di Kong, E. Mellios, D. Halls, A. Nix and G. Hilton

**Performance of Energy Detection in NLOS Frequency-selective Fading Channels**

M. Bober, R. Moorfeld and E. Jorswieck

**Time and Frequency Synchronisation in Optical Wireless OFDM Networks**

B. Ghimire, I. Stefan, H. Elgala and H. Haas

**Indoor-to-outdoor path-loss models for Femtocell predictions**

Y. Corre, J. Stephan and Y. Lostanlen

**Blind Estimation and Mitigation of Nonlinear Channels**

J. Dohl and G. Fettweis

**LPAN-2: Medium Access Control - 1****Improving Throughput of Wireless LANs with Transmit Power Control and Slotted Channel Access**

S. Tang, A. Hasegawa, R. Nagareda, A. Kitauro, T. Shibata and S. Obana

**Inter-cell Interference Management in OFDMA TDD Downlink Using Sounding/Silencing Protocol**

M. Cierny, C. Ribeiro, R. Wichman and O. Tirkkonen

**Channel-aware ALOHA with SINR Capture: When Is the Knowledge of Channel Not Helpful?**

F. T. Hsu and H. J. Su

**IEEE 802.11ac: Enhancements for Very High Throughput WLANs**

E. H. Ong, J. Kneckt, O. Alanen, Z. Chang, T. Huovinen and T. Nihtilä

**Asynchronous Receiver-Initiated MAC Protocol with the Stair-Like Sleep in Wireless Sensor Networks**

T. Wada, I. T. Lin and I. Sasase

**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,

**SL-1: Wireless Communications Security****Preemption, Fairness, and Security Dynamics in Heterogeneous DSA Environments**

S. Sodagari and T. C. Clancy

**Catch the Jammer in Wireless Sensor Network**

S. Yanqiang, R. Molva, M. Önen, X. Wang and X. Zhou

**Secure Hybrid Digital-Analog Wyner-Ziv Coding**

G. Bagherikaram and K. Plataniotis

**On Optimal Artificial-Noise Assisted Secure Beamforming for the Fading Eavesdropper Channel**

S. H. Lai, P. H. Lin, S. C. Lin and H. J. Su

**WACC-01: Cooperative Communications - I****Improving CoMP Cluster Feasibility by Dynamic Serving Base Station Reassignment**

T. Biermann, L. Scalia, C. Choi, H. Karl and W. Kellerer

**Dynamic Cell Clustering Design for Realistic Coordinated Multipoint Downlink Transmission**

H. Sun, X. Zhang and W. Fang

**Coordinated Multipoint Multiuser-MIMO Transmissions over Backhaul-Constrained Mobile Access Networks**

C. Choi, L. Scalia, T. Biermann and S. Mizuta

**Decentralized Beam Coordination via Sum Rate Maximization in TDD Multi-cell MIMO Systems**

P. Komulainen, A. Tölli and M. Juntti

**Downlink Distributed Beamforming Through Relays with Imperfect CSI**

Yi Zheng and S. Blostein

**WACC-02: Radio Resource Management - I****Power Efficient Resource Allocation in Uplink SC-FDMA Systems**

A. Ahmad and M. Assaad

**Joint BS Selection and Subcarrier Assignment for Multicell Heterogeneous OFDM Unicasting**

C. Liu, P. Wang, A. Schmeink and R. Mathar

**Ecological Competition based Resource Control for Sustainable Heterogeneous Wireless Networks**

M. F. Hossain, K. Munasinghe and A. Jamalipour

**A Parallel Bit Removal Greedy Algorithm for Multiuser 4G OFDM-based Systems**

H. Cordova and L. Van Biesen

**RAT Selection for Multiple Calls in Heterogeneous Wireless Networks Using Modified TOPSIS Group Decision Making Technique**

O. Falowo and H. A. Chan

**WACC-03: OFDM - I****A New Digital Predistorter Linearizer**

A. Lozhkin and M. Nakamura

**On Spectral Efficiency of Asynchronous OFDM/FBMC based Cellular Networks**

Y. Medjahdi, M. Terré, D. Le Ruyet and D. Roviras

**Blind frequency-dependent IQ imbalance compensation scheme using CMA for OFDM system**

M. Matsui, T. Nakagawa, R. Kudo, K. Ishihara and M. Mizoguchi

**On Spatial Data Multiplexing over Coded Filter-Bank Multicarrier with ML Detection**

R. Zakaria and D. Le Ruyet

**Multicarrier HF Communications with Amplify-and-Forward Relaying**

M. Heidarpour and M. Uysal

**WACC-04: Interference Management - I****Multi-objective Optimization for Intercell Interference Management in Advanced Multihop Cellular Networks**

B. Lorenzo and S. Glisic

**General Iterative Algorithm to Align Interference along Spatial Dimension**

Y. Du and S. Liu

**Iterative OFDM Receiver with Combined Interference Suppression and Cancellation**

K. Fang and G. Auer

**Single-Antenna Interference Cancellation for Complex-Valued Signal Constellations with Applications to GSM/EDGE**

A. Lehmann, M. Ruder, W. Gerstacker and R. Schober

**User Position Aware Multicell Beamforming for a Distributed Antenna System**

T. Le and M. Nakhai

**WNHC-1: WNHC – Channel Modeling & PHY I****Experimental Analysis of IEEE 802.15.4 for On/Off Body Communications (invited paper)**

N. Amini, W. Xu, Z. Li, M. C. Huang and M. Sarrafzadeh

**Raptor Codes in Wireless Body Area Networks**

J. Abouei, S. Fazeli Dehkordy, K. Plataniotis and S. Pasupathy

**Interference performance of IEEE 802.15.6 Impulse-Radio Ultra-Wideband Physical Layer**

I. Dotlic

**Reconfigurable Subsampling Receiver Architecture For Wireless Body Area Networks**

D. Zhao

**12:00 - 13:30****Lunch: Will be served in Frontenac****13:30 - 14:15****Keynote 1: P. R. Kumar (University of Illinois, Urbana-Champaign)****Keynote 2: Ted Rappaport (University of Texas at Austin)****14:15 - 14:30****Break****14:30 - 16:00****WWRF Special Session - Machine to machine communications: Trends, challenges, design principles, and research directions****Introduction to the session****A joint clustering and routing scheme to maximize link performance in cooperative MIMO ad-hoc networks**

B. Zafar, S. Gharekhloo and M. Haardt

**Energy Efficient AF Relaying under Error Performance Constraints with Application to M2M Networks**

G. Elkheir, A. Lioumpas and A. Alexiou

**Optimizing background-communication of mobile devices and sensors to drive end-user services**  
O. Droegehorn

#### AID-3: Autonomous Infrastructure Networks

**Autonomous Resource Allocation for dense LTE networks: A Multi Armed Bandit formulation**  
A. Feki and V. Capdevielle

**Approaches to Enhancing Autonomous Power Control at Femto under Co-channel Deployment of Macrocell and Femtocell**  
T. Yang and Lu Zhang

**Interference Mitigation through Self-Organization in OFDMA Femtocells**  
Y. S. Liang, W. H. Chung, Z. Hongke and S. Y. Kuo

**Self-Optimized Precoding and Power Control in Cellular Networks**  
V. Garcia, C. S. Chen, N. Lebedev and J. M. Gorce

**A Generalized Methodology for Frequency Reuse in Autonomous Cellular Networks**  
B. Golkar and E. Sousa

#### CRSM-3: Spectrum Sensing and Resource Allocation

**Dynamic Resource Allocation for Cognitive OFDMA Networks based on "two witnesses rule" for Cooperative Spectrum Sensing**  
R. Bouraoui and H. Besbes

**Antenna Selection Based Spectrum Sensing for Cognitive Radio Networks**  
S. L. Wang, Y. Wang, J. Coon and A. Doufexi

**Cross-Layer Design of Multi-user Opportunistic Spectrum Access with Cooperative Sensing**  
Lu Ye, Z. Zhang, H. Zhang and X. Ma

**Cooperative Learning for Reduced Complexity Cross-Layer Cognitive Radio**  
A. Kwasinski and W. Wang

**History-aware Channel Search Schemes in Cognitive Radio Networks**  
A. Azarfar, J. F. Frigon and B. Sanso

#### CRSM-4: Spectrum Access, Sharing and Allocation

**Joint Channel Allocation and User Association for Heterogeneous Wireless Cellular Networks**  
D. Fooladivanda, A. Daoud and C. Rosenberg

**Identification of Spectrum Sharing Opportunities for a Finite Field Secondary Network through an Exact Outage Expression under Rayleigh Fading**  
A. Kahlon, S. Szyszkowicz, S. Periyalwar and H. Yanikomeroglu

**Interference-Aware Dynamic Spectrum Access in Cognitive Radio Network**  
R. Mahapatra and E. Calvanese Strinati

**Predictive Opportunistic Spectrum Access using Learning based Hidden Markov Models**  
H. Ahmadi, Y. H. Chew, P. K. Tang and Y. Nijsure

**Spectrum Trading for Non-Identical Channel Allocation in Cognitive Radio Networks**  
M. Nader Tehrani and M. Uysal

#### ITN-1: Networking

**Speed Adaptive Probabilistic Flooding for Vehicular Ad-Hoc Networks**  
Y. Mylonas, M. Lestas, A. Pitsillides and P. Ioannou

**Handshaking vs. Instant Broadcast in VANET Safety Message Routing**  
F. Khan, Y. Chang, S. J. Park and J. Copeland

**Local Density Estimation for Contention Window Adaptation in Vehicular Networks**  
R. Stanica, E. Chaput and A. L. Beylot

**Characterizing Broadcast Packet Losses in IEEE 802.11p/WAVE Vehicular Networks**  
C. Campolo, Y. Koucheryavy, A. Molinaro and A. Vinel

**On non-saturation regime in IEEE 802.11p based VANET with mobile nodes**  
S. Ozturk and J. Mišić

#### LPAN-3: Hardware Design

**Frequency-Domain Timing Synchronization for IEEE 802.11n Communications Systems**  
H. H. Peh, S. Sun, P. H. W. Fung and C. K. Ho

**Energy Detection based Blind Synchronization for Pulse Shape Modulated IR-UWB Systems**  
R. Akbar, E. Radoi and S. Azou

**Wake-up Radio using IEEE 802.11 Frame Length Modulation for Radio-On-Demand Wireless LAN**  
Y. Kondo, H. Yomo, S. Tang, M. Iwai, T. Tanaka, H. Tsutsui and S. Obana



**A Low-Cost 2.45-GHz Frequency Synthesizer with Open-Loop Modulation for WPAN Applications**  
L. Zaid, J. Bouloc, A. Sangiovanni, F. Haddad, W. Rahajandraibe, V. Cheynet de Beaupré and R. Scali

**OFDM-UWB MIMO Transceiver Implementation in Realistic Fading Channels**  
M. AlJerjawi, Y. Xu, R. Bosisio and C. Nerguizian

#### LPAN-4: Relaying and Cooperative Communication - 1

**Performance Analysis of a Cooperative MAC**  
D. T. C. Wong, A. T. Hoang, Y. C. Liang and F. Chin

**Cooperative Communication Design with Distributed Code Allocation in a Clustered Network**  
X. He and F. Li

**Investigations on the Effects of Co-channel Interference on Dual-Hop Transmission in Nakagami-m Fading**  
S. Ikki and S. Aïssa

**Cooperative MS-Grouping Schemes Based on Three Cost Metrics for Improving Battery Lifetime and Energy Efficiency**  
H. Leem, B. H. Jung and D. K. Sung

**A low-complexity power allocation for cooperative bit-interleaved coded modulation systems with adaptive decode-and-forward relaying**  
T. W. Yu, W. H. Sheen and C. H. Wang

#### Panel 2: Standardization, Technology, and Challenge For Body Area Network

Chair : Huan-Bang Li, Panelists: David Davenport, Arthur Astrin, Anuj Batra, Leif Hanlen,

#### SL-2: TOA-Based Localization Systems

**Fast and Accurate Tracking in Wireless Networks**  
M. Hedley, R. Liu and X. Yang

**A New Perspective on the Impact of Diffraction in Proximity of Micro-Metals for Indoor Geolocation**  
F. Askarzadeh, Y. Ye, K. Ghaboosi, S. Makarov and K. Pahlavan

**A practical indoor TOA ranging error model for localization algorithm**  
J. He, Q. Wang, Q. Zhang, B. Liu and Y. Yu

**UWB Localization Algorithm to Improve Accuracy under NLOS Environment**  
K. Enda and R. Kohno

**Concatenated Spectrum Multi-Band TOA Estimation**  
M. Pourkhaatoun and S. Zekavat

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

**Prediction of Frequency Selective SIMO Channels**  
N. Palleit and T. Weber

**Cramer-Rao Lower Bound for Channel Estimation in a MUROS/VAMOS Downlink Transmission**  
M. Ruder, R. Schober and W. Gerstacker

**Iterative Channel Estimation and Data Detection in Fast Fading Channels**  
M. McGuire

**Low Complexity Semi-Blind Channel Estimation Algorithm in Two-Way Relay Networks**  
Q. Zhao, Z. Zhou and B. Vucetic

**Diversity Analysis of Optimal SC-FDE MIMO Systems and Comparison with OFDM Based Transmission**  
G. Güvensesen and A. Ö. Yılmaz

#### WACC-06: Relay Assisted Communications - I

**Lattice-based coding scheme for MIMO bi-directional relaying with three nodes**  
M. Pischella and L. R. Didier

**Network Coding Noise Reduction via Relay Power Allocation in a Two-unicast Wireless System**  
Z. Mobini, P. Sadeghi and S. Zokaei

**Generalized Bidirectional Multi-pair Multi-antenna Wireless Network Coding**  
T. Datta, A. Kumar and A. Chockalingam

**Out of Group Interference Aware Precoding for CoMP: A Maximum Eigenmode Based Approach**  
Y. Fang and J. Thompson

**Precoder optimization for user fairness in shared relay channels with interference**  
N. Gresset

#### WACC-07: MIMO Techniques - I

**Space Time Interleaving Code in Frequency Selective Channels**  
P. Sun and D. Li

**An Efficient Feed-forward Method for Lattice Reduction MIMO Schemes**

M. Hunukumbure, L. Sarperi and S. Vadgama

**Optimizing Energy for Training vs. Data in Linearly Precoded Multiuser Sum-Rate Maximization**

A. Tenenbaum and R. Adve

**Enhanced Iterative Max-Sum-Rate Algorithm for Linear MU-MIMO Precoding**

C. Na, X. Hou and A. Harada

**Joint Compensation of Multiple RF Impairments in MIMO STBC Systems**

J. Qi and S. Aïssa

**WNHC-2: WNHC – Technology, Applications & Services I****Localization Algorithm Performance in Ultra Low Power Active RFID Based Patient Tracking (invited paper)**

W. Cully, S. Cotton, W. Scanlon and J. McQuiston

**An Intelligent Multi-modal Affect Recognition System for Persistent and Non-invasive Personal Health Monitoring**

X. Liu, L. Zhang and J. Yadegar

**Markov Modeling of Energy Harvesting Body Sensor Networks**

J. Ventura and K. Chowdhury

**On the accuracy of RF positioning in multi-Capsule endoscopy**

Y. Ye, U. Khan, N. Alsindi, R. Fu and K. Pahlavan

**WWRF Special Session 1: Machine to Machine Communications: Trends, Challenges, Design Principles and Research Directions****16:00 - 16:30****Coffee Break****16:30 - 17:30****WWRF Special Session - Continued****Improving Battery Life and Performance of Mobile Devices with Cyber Foraging**

J. Parkkila and J. Porras

**Overall discussion****AID-4: Energy Efficient Approaches****Energy Efficient OFDMA: Trade-off between Computation and Transmission Energy**

F. S. Chu and K. C. Chen

**Iterative Tracking the Minimum of Overall Energy Consumption in OFDMA Systems**

F. S. Chu and K. C. Chen

**Energy Efficiency and Performance in mobile networks deployments with femtocells**

E. Mino

**CRSM-5: Spectrum Access and Management****A Stackelberg Game for Cooperative Transmission and Random Access in Cognitive Radio Networks**

X. Hao, M. H. Cheung, V. Wong and V. Leung

**A Novel Spectrum Selection Strategy for Matching Multi-Service Secondary Traffic to Heterogeneous Primary Spectrum Opportunities**

F. Bouali, O. Sallent, J. Pérez-Romero and R. Agustí

**An Access Technique for Secondary Network in Downlink Channels**

W. Ahmed, J. Gao, S. Saleem and M. Faulkner

**CRSM-6: Interference Management****Aggregate interference from Secondary Users with Heterogeneous Density**

M. Tercero, K. W. Sung and J. Zander

**Model for computing aggregate interference from secondary cellular network in presence of correlated shadow fading**

K. Ruttik, K. Koufos and R. Jäntti

**Grid-based Channel Mapping in Cognitive Radio Ad hoc Networks**

S. Romaszko and P. Mähönen

**LPAN-5: Sensor Networks - 1****Nodes Placement for reducing Energy Consumption in Multimedia Transmissions**

P. Pace, V. Loscri, E. Natalizio and T. Razafindralambo

**Stochastic Coverage in Event-Driven Sensor Networks**

H. She, Z. Lu, A. Jantsch, D. Zhou and L. R. Zheng

**DA-MAC: Density Aware MAC for Dynamic Wireless Sensor Networks**  
G. Corbellini, E. Calvanese Strinati, E. Ben Hamida and A. Duda

#### LPAN-6: Medium Access Control - 2

**Cross-Layer Throughput Optimization using Adaptive PHY/MAC Layer Techniques: A Unified Approach**  
O. Odejide and A. Annamalai

**On Efficient Airtime-based Fair Link Scheduling in IEEE 802.11-based Wireless Networks**  
K. Gomez, R. Riggio, T. Rasheed and I. Chlamtac

**Distributed Optimal TXOP Control for Throughput Requirements in IEEE 802.11e Wireless LAN**  
J. Y. Lee, H. Y. Hwang, J. Shin and S. Valaee

#### SL-3: RSS-Based Localization Methods

**Improving the Accuracy of Connectivity-based Positioning for Mobile Sensor Networks**  
S. Maclean and S. Datta

**Fingerprinting-Based Radio Localization in Indoor Environments Using Multiple Wireless Technologies**  
M. Rodrigues, L. Vieira and M. Campos

**Impact of the Human Motion on the Variance of the Received Signal Strength of Wireless Links**  
K. El-Kafrawy, M. Youssef and A. El-Keyi

#### WACC-08: Diversity Techniques - I

**Maximum-Likelihood MIMO Detection Using Adaptive Hybrid Tree Search**  
K. C. Lai, J. J. Jia and L. W. Lin

**Performance Analysis for Coded Cooperative Multiple-Relay in Distributed Turbo Channels**  
C. Li, Y. Wang, W. Xiang and D. Yang

**Error-rate Performance Analysis of Opportunistic Regenerative Relaying**  
K. Tourki, H. C. Yang and M. S. Alouini

#### WACC-09: Cross Layer Design - I

**Early-Drop based Hybrid ARQ in a Cross-layer context**  
S. Marcille, P. Ciblat and C. J. Le Martret

**Throughput-Optimal Cross-layer Resource Allocation in DS-CDMA Systems with Nakagami Multipath Fading**  
A. Shojaeifard and M. Shikh-Bahaei

#### WACC-10: Energy Efficient Design

**Energy Efficient Coded Cooperative Data Exchange for Mobile Users**  
S. Etemadi Tajbakhsh and P. Sadeghi

**On the Energy Efficiency of Base Station Sleeping with Multicell Cooperative Transmission**  
S. Han, C. Yang, G. Wang and M. Lei

**A Priority-aware Hybrid Multi-hop Energy Saving Strategy for Inter-eNB Scenario 2**  
C. Zhong, T. Yang and H. Sun

#### WACC-11: Smart Antenna Systems

**Power Allocation Algorithm for OFDM Distributed Antenna Systems**  
W. P. Chen

**SINR Balancing and Beamforming for the MISO Interference Channel**  
F. Negro, M. Cardone, I. Ghauri and D. Stock

**Single-Port MMSE Beamforming**  
B. Lawrence and I. Psaromiligkos

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

**Superframe-Level Time-hopping System with Variable Contention Access Period for Wireless Body Area Communications**  
J. Zhang, L. Hanlen, A. Wang and X. Huang

**A Cyclic MAC Layer Synchronisation Approach for Time-critical Low-power Body Sensor Networks**  
C. Beck, P. Hevesi, J. Nagel, G. Bretthauer and R. Guthoff

**Action-based scheduling technique for 802.15.4/ZigBee wireless body area networks**  
P. Abouzar, K. Shafiee, D. Michelson and V. Leung

**WWRF - Special Session 2: Wireless World Research Forum (WWRF) - Machine to Machine Communications: Trends, Challenges, Design Principles and Research Directions****Tuesday, September 13****09:00 - 10:00****PL-2: Plenary Talks - Henri Tirri and Wen Tong****10:00 - 10:30****Coffee Break****10:30 - 12:00****AID-5: Femtocell Systems II**

***A Simple Equalization Technique to Minimize ICI in OFDMA-Based Femtocell Networks***  
T. G. Amila Pradeep Kumara and N. Rajatheva

***Downlink Interference Management Techniques for Residential Femtocells***  
C. Patel, V. Khaitan, S. Nagaraja, F. Meshkati, Y. Tokgoz and M. Yavuz

***On the Analysis of Co-Tier Interference in Femtocells***  
E. Pateromichelakis, M. Shariat, A. Quddus and R. Tafazolli

***Coverage Extension with Hybrid-Access Femtocells***  
S. Sadr and R. Adve

***Adaptive Geolocation Based Interference Control for Hierarchical Cellular Network with Femtocells***  
S. Sagari, G. Bhanage and D. Raychaudhuri

**AID-6: Receiver Issues**

***Interference Rejection Combining in Two-Tier Femtocell Networks***  
Y. Jeong, H. Shin and M. Win

***Uplink femto-macro ICIC with semi-centralized power control***  
J. Guillet, L. Brunel and N. Gresset

***Periodic Variation Method for Blind Symbol Rate Estimation***  
A. Guner and I. Kaya

***Channel Equalization in Wavelet Packet Modulation by Minimization of Peak Distortion***  
A. Bajpai, M. K. Lakshmanan and H. Nikookar

***Successive Interference Cancellation for Two-group Resource Allocation***  
M. Gurcan, H. Ab Ghani and I. Ma

**CRSM-7: Advanced Spectrum Sensing**

***Adaptive Spectrum Sensing of Wireless Microphones with Noise Uncertainty***  
M. Hassan and O. Nasr

***Primary-User Mobility Impact on Spectrum Sensing in Cognitive Radio Networks***  
A. S. Cacciopuoti, I. Akyildiz and L. Paura

***Analysis of Detection Performance in Spectrum Sensing Optimisation for Long Sensing Periods***  
K. Chang, B. Senadji and V. Chandran

***On the Performance of Dimension Estimation-based Spectrum Sensing for Cognitive Radio***  
B. Zayen

***An energy detector for spectrum sensing in impulsive noise environment***  
T. Trump and I. Mürsepp

**CRSM-8: Radio Resource Allocation and Management**

***Optimal Power Allocation in Multi-Hop Cognitive Radio Networks***  
M. Girnyk, M. Xiao and L. K. Rasmussen

***Optimal and Suboptimal Resource Allocation For Two-Hop OFDM-Based Multi-Relay Cognitive Networks***  
M. Shaat and F. Bader

***Power Allocation in Delay-QoS Constrained Multiband Cognitive Radios***  
L. Musavian and S. Aïssa

***TDD cognitive radio femtocell network (CRFN)***  
R. Berangi, S. Saleem, M. Faulkner and W. Ahmed

***Distributed Cognitive Two-Way Relay Beamformer Designs under Perfect and Imperfect CSI***  
P. Ubaidulla and S. Aïssa

**LPAN-7: MIMO Channel Modeling and Transmission Design**

**Extracting specular-diffuse clusters from MIMO channel measurements**  
F. Quitin, C. Oestges, F. Bellens, S. van Roy, F. Horlin and P. De Doncker

**Empirical Investigation of Multi-Link Separation for Indoor MIMO Channels**  
C. Oestges and N. Czink

**A Performance Evaluation of 60 GHz MIMO Systems for IEEE 802.11ad WPANs**  
X. Zhu, A. Doufexi and T. Kocak

**Asymptotic analysis of the outage probability for MIMO ad-hoc networks**  
H. Keshavarz and J. Ahmadi-Shokouh

**Iterative Inter-carrier Interference Mitigation for Mobile MIMO-OFDM Systems**  
Y. Zhang, J. Li, L. Pang and Z. Ding

#### LPAN-8: Multihop Cooperative Communication

**ECAR: an Energy/Channel Aware Routing Protocol For Cooperative Wireless Sensor Networks**  
A. Ben Nacef, S. M. Senouci, Y. Ghamri-Doudane and A. L. Beylot

**Comparing the Energy Efficiency of Single-Hop, Multi-Hop and Incremental Decode-and-Forward in Multi-Relay Wireless Sensor Networks**  
M. Kakitani, G. Brante, R. Demo Souza and A. Munaretto

**Femto-Relays: A Power Efficient Coverage Extension Mechanism for Femtocells**  
P. Jacob and A. Madhukumar

**A Study on Outage Probability of Collaborative Multi-Hop Transmissions with Non-Uniformly Distributed Networks**  
T. Kobayashi, K. Ishibashi and T. Wada

**An Experimental Study of Fractional Cooperation in Wireless Mesh Networks**  
A. Calce, N. Farsad and A. Eckford

#### 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

#### SL-4: Wireless Network Security

**Location-based Anonymous Authentication for Vehicular Communications**  
S. Biswas and J. Mišić

**On the resiliency of sensor networks under the pairwise key distribution scheme**  
O. Yagan and A. Makowski

**Efficient Solution to Decrease the Effect of DoS Attack against IP Address Ownership Proof in Mobile IPv6**  
K. Toyoda, Y. Kamiguchi, S. Inoue and I. Sasase

**Limitations of Trust Management Schemes in VANET and Countermeasures**  
Z. Huang, S. Ruj, M. Cavenaghi and A. Nayak

**Neural Network Based PHY-Layer Key Exchange for Wireless Communications**  
D. Karas, G. Karagiannidis and R. Schober

#### WACC-12: Cooperative Communications - II

**Information Theoretic Performance of Cooperative Underwater Acoustic Communications**  
S. Al-Dharrab and M. Uysal

**A Game Theoretic Approach for Content Distribution over Wireless Networks with Mobile-to-Mobile Cooperation**  
L. Al-Kanj, W. Saad and Z. Dawy

**A Novel Optimization Approach for Packet-wise Selective Relaying in CDMA Uplink Communications**  
N. Debbabi, I. Kammoun and M. Siala

**Cooperative Broadcast Channels with Hybrid ARQ**  
R. Narasimhan

**DMT Analysis and Optimization for Cooperative Multiuser OFDMA systems**  
W. Yang, C. Yueming and Y. Wang

#### WACC-13: Radio resource management - II

**A Dynamic TDD Inter-Cell Interference Coordination scheme for Long Term Evolution Networks**  
M. Al-Rawi and R. Jäntti

**A Novel Distributed Inter-cell Interference Coordination Scheme based on Projected Subgradient and Network Flow Optimization**  
A. Bin Sediq, R. Schoenen, H. Yanikomeroglu, G. Senarath and Z. Chao

**Resource Allocation with Sum Throughput Improvement for Uplink Transmission in LTE Systems**  
C. H. Chang and H. L. Chao

**Comparison of Different Network Densification Alternatives from the LTE Uplink Point of View**  
K. Hiltunen

**Dynamic Fractional Power Control for LTE Uplink**

S. Essassi, M. Siala and S. Cherif

#### WACC-14: OFDM - II

***A Low Complexity Receiver for T-transform based OFDM Systems***

I. Ali, A. Pollok, L. Luo and L. Davis

***Near-Optimal Linear Precoding for Multi-Point Cooperative Transmission with Frequency--Selective Channel***

Q. Shi and J. Wu

***A Novel Link Adaptive Transmission Scheme in Higher-Order MIMO Systems***

M. Hu, S. Jin and X. Gao

***Enhanced Alamouti Decoding Scheme for DVB-T2 Systems in SFN Channels***

A. Omri, R. Hamila, A. Hazmi, R. Bouallegue and A. Al-Dweik

***Sensitivity Analysis of Interleaved OFDMA System Uplink to Carrier Frequency Offset***

S. K. Hashemizadeh, H. Saeedi-Sourck and M. Omid

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

***Analytical Evaluation of LTE Uplink Performance in the IMT-Advanced Indoor Hotspot Scenario***

M. Mühleisen and B. Walke

***A Study on Design of Spatial Fading Emulator Based on Clarke's Model***

D. Matsuo, M. Arai, K. Sakaguchi and K. Araki

***A Handover Optimization Algorithm with Mobility Robustness for LTE systems***

K. Kitagawa, T. Komine, T. Yamamoto and S. Konishi

***Throughput Analysis of TDD LTE Random Access Channel***

I. Vukovic and I. Filipovich

***Hybrid Space-Time Diversity and Spatial-Multiplexing MIMO Cooperative Scheme for Wireless Communication Systems***

D. Furtado, F. M. Caldas and W. Freitas

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

***Interference Mitigation for Body Area Networks***

W. B. Yang and K. Sayrafian

***Performance and Transmission Power Bound Analysis for Optical Wireless based Mobile Healthcare Applications***

S. S. Torkestani, N. Barbot, S. Sahuguede, A. Julien-Vergonjanne and J. P. Cances

***Dynamic Power Control in Wireless Body Area Networks Using Reinforcement Learning with Approximation***

R. Kazemi, R. Vesilo, E. Dutkiewicz and R. Liu

***Doppler Spread Analysis of Human Motions for Body Area Network Applications***

R. Fu, Y. Ye, N. Yang and K. Pahlavan

***A Statistical Analysis of the Influence of the Human Body on the Radiation Pattern of Wearable Antennas***

M. Mackowiak, C. Oliveira, C. Lopes and L. Correia

12:00 - 13:30

Lunch

13:30 - 14:15

Keynote 3: Dipankar Raychaudhuri (WINLab)

Keynote 4: Sergio Verdu (Princeton University)

14:15 - 14:30

Break

14:30 - 16:00

#### AID-7: LTE Networks

***Performance of LTE SON Uplink Load Balancing in Non-Regular Networks***

J. Turkka, T. Nihtilä and I. Viering

***Interference Coordination Based on Hybrid Resource Allocation for Overlaying LTE Macrocell and Femtocell***

Bo Li, Y. Zhang, G. Cui, W. Wang, J. Duan and W. Chen

***Design of Layered Radio Environment Maps for RAN Optimization in Heterogeneous LTE Systems***

T. Cai, J. van de Beek, B. Sayrac, S. Grimoud, J. Nasreddine, J. Riihijärvi and P. Mähönen

***How femtocells impact the capacity and the energy efficiency of LTE-Advanced networks***

L. Saker, S. E. Elayoubi and T. Chahed

***E3F based assessment of energy efficiency of Relay Nodes in LTE-Advanced networks***

R. Fantini, D. Sabella and M. Caretti

#### CRSM-10: Estimation and Detection Techniques

**Multiband Joint Detection Framework for Complex Gaussian Signals in Cognitive Radios**  
S. Farooq and A. Ghafoor

**A Multiband MIMO Receiver with Ordered Successive Detection for Cognitive Radio**  
T. Ohta, S. Denno, M. Morikura and T. Furuno

**Estimating Transmitter Activity Patterns: an Empirical Study in the Indoor Environment**  
E. Meshkova, J. Ansari, J. Riihijärvi, J. Nasreddine and P. Mähönen

**An Adaptive Energy Detection Technique Applied to Cognitive Radio Networks**  
A. Vakili and B. Champagne

**A Wideband Interference Power Estimator using a 1-bit Quantizer**  
S. Dwivedi, A. De Angelis and P. Händel

#### CRSM-9: Cognitive Radio: Applications and Operations

**A short feasibility study of a cognitive TV black space system**  
Y. Selén, R. Baldemair and J. Sachs

**Feasibility evaluations for secondary LTE usage in 2.7-2.9GHz radar bands**  
M. I. Rahman and J. Karlsson

**Cognitive radio implementation in ISM bands with Microsoft SORA**  
J. Bajaj, W. Kim, S. Oh and M. Gerla

**An analysis of radio fingerprints behavior in the context of RSS-based location fingerprinting systems**  
A. Arya and P. Godlewski

**Reporting Effort for Cooperative Systems Applying Interference Floor Shaping**  
W. Mennerich and W. Zirwas

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

**Experimental Analysis of Beamforming in High-Speed Railway Communication**  
H. H. Wang and H. A. Hou

**CVI: Connected Vehicle Infrastructure for ITS**  
A. Koulakezian and A. Leon-Garcia

**Efficient Secure Service Discovery Protocol for Intelligent Transportation Systems**  
K. Abrougui and A. Boukerche

**Exploiting Trunked Radio to Support ITS Network Expansion and Redundancy**  
E. Vorakitolan, J. Havlicek, M. Atiquzzaman and R. Barnes

**Sharing Vehicle and Infrastructure Intelligence for Assisted Intersection Safety**  
S. Datta Gupta, Y. P. Fallah and S. Shladover

#### LPAN-10: Sensor Networks - 2

**Energy-Efficient Beacon-less Protocol for WSN**  
I. Amadou, G. Chelius and F. Valois

**Overflow of Fountain Codes in Multi-hop Wireless Sensor Networks**  
A. Apavatjirut, K. Jaffrès-Runser, C. Goursaud and C. Lauradoux

**An Efficient Event Detecting Protocol in Event-driven Wireless Sensor Networks**  
L. Liang, D. Gao, Z. Hongke and O. Yang

**Efficient and Reliable Breadcrumb Systems via Coordination among Multiple First Responders**  
H. Liu, Z. Xie, J. Li, K. Whitehouse, J. Stankovic, S. Lin and D. Siu

**Sensor Context Information for Energy-Efficient Optimization of Wireless Procedures**  
D. Corujo, M. Lebre, D. Gomes and R. Aguiar

#### LPAN-9: Emerging Applications

**Exploiting Radio Irregularity in the Internet of Things for Automated People Counting**  
W. C. Lin, W. Seah and W. Li

**Enhancing the Capability and Energy Efficiency of Smartphones using WPAN**  
R. Palit, A. Singh and K. Naik

**i-Lighthouse: a Visible Light Communication System for the Visually Impaired**  
A. Funahashi, K. Kobayashi, H. Okada and M. Katayama

**Exploring Terabit Wireless Potential of Wavelength Division Multiplexing**  
C. Y. Shen, F. S. Chu and K. C. Chen

**Web Services for Indoor Energy Management in a Smart Grid Environment**  
A. Khan and H. Mouftah

**Panel 4: Heterogeneous Networks**

Chair: Laurent Rouillet, Panelists: Pantelis Monogioudis, Ekram Hossain, Laurent Rouillet, Yves Lostanlen

**SL-5: INS, Dead-Reckoning, and Vehicular Localization**

**Zigbee as a Means to Reduce the Number of Blind Spot Incidents of a Truck**  
S. De Lausnay, T. Standaert, N. Stevens, W. Joseph, L. Verloock, F. Goeminne and L. Martens

**Performance analysis of a novel pedestrian dead-reckoning method**  
B. Pricope and H. Haas

**A Walking Velocity Update Technique for Pedestrian Dead-Reckoning Applications**  
C. C. Lo, C. P. Chiu, Y. C. Tseng, S. A. Chang and L. C. Kuo

**Usability of Apple iPhones for Inertial Navigation Systems**  
C. Schindhelm, F. Gschwandtner and M. Banholzer

**A Nearest Transmitter Classification Method for VLC Based Positioning System**  
C. Serththn, T. Ohtsuki, O. Takyu, T. Fujii and Y. Umeda

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

**Low-complexity frequency offset and phase noise estimation for burst-mode digital transmission**  
J. Bhatti, N. Noels and M. Moeneclaey

**Second-Order Statistics of 2D Non Isotropic Mobile-to-Mobile Wireless Channels**  
P. Samarasinghe, T. Abhayapala, T. Lamahewa and R. Kennedy

**Widely Linear vs. Conventional Subspace-Based Estimation of SIMO Flat-Fading Channels**  
S. Abdallah and I. Psaromiligkos

**Performance Evaluation of Downlink Beamforming over Non-Stationary Channels with Interference**  
A. Ispas, C. Schneider, G. Ascheid and R. Thomä

**Bayesian and Deterministic CRBs for Semi-Blind Channel Estimation in SIMO Single Carrier Cyclic Prefix Systems**  
S. Omar, D. Slock and O. Bazzi

**WACC-17: Relay Assisted Communications - II**

**Energy-Efficient Techniques Allowing Intra-link Errors for Block-Fading Multiple Access Relaying**  
P. S. Lu and T. Matsumoto

**Joint Power Allocation and Beamforming for Multiuser MIMO Two-way Relay Networks**  
M. Khafagy, A. El-Keyi, T. ElBatt and M. Nafie

**Energy Efficiency Using Cooperative Relaying**  
T. u. R. Ahsin and S. Ben Slimane

**Joint Optimization of Power Allocation and Relay Position for Regenerative Relaying in the Presence of Co-Channel Interference**  
S. Ikki and S. Aissa

**Power Allocation for Two-Way Amplify-Forward Relaying with Receive Channel Knowledge**  
H. Bagheri, M. Ardakani and C. Tellambura

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

**A computationally efficient multimode antenna selection algorithm for MIMO V-BLAST systems**  
C. E. Chen and S. H. Huang

**Low Complexity Soft-Output Signal Detector for Spatial-Multiplexing MIMO System**  
L. Liu, J. Löfgren and P. Nilsson

**Modified Partial Euclidean Distance for Iterative Tree-Search MIMO Detection**  
T. Wiegand, N. Heidmann and S. Paul

**Scale Effects Oriented MIMO Detector**  
R. Qian, Y. Qi and W. Wang

**Near-Capacity MIMO Subspace Detection**  
Y. Chen and S. ten Brink

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

**Proposal of Cross-Carrier Precoding for Carrier Aggregation Enhancement**  
Y. Ikeda, I. Kanno, T. Kitayabu and H. Ishikawa

**Peak power reduction techniques for multi-channel SC-OFDM**  
F. Hasegawa, A. Okazaki and H. Kubo



**Performance Degradation of Turbo Coded Physical Layer Network Coding on the Two-Way Relay Channel**

D. Fang and A. Burr

**Performance Analysis of Variable-Rate Adaptive Modulation for AF Opportunistic Relaying under Outdated CSI**

M. Torabi, J. F. Frigon and D. Haccoun

**Cooperative Detection over Multiple Parallel Channels: a Principle Inspired by Nature**

R. Mathar and A. Schmeink

**WNHC-5: WNHC - Technology, Applications & Services II****Remote Elderly Assisted Living System- A preliminary research, development and evaluation**

M. Ghassemian, S. Auckburaully, M. Pretorius and D. Jai-Persad

**Classifier Fusion Framework using Genetic Algorithms**

T. Tamminedi, P. Ganapathy, L. Zhang and J. Yadegar

**A State Classification Method Based on Space-Time Signal Processing Using SVM for Wireless Monitoring Systems**

J. Hong and T. Ohtsuki

**Ranging Based on Maximum Likelihood Techniques for Ultra Wideband Medical Implants**

M. Kanaan

**A Cooperative Medical Traffic Delivery Mechanism for Multi-hop Body Area Networks**

K. Ghaboosi, K. Pahlavan and C. Pomalaza-Ráez

**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**

G. Bhanage, Y. Zhang and D. Raychaudhuri

**Enhancement of Packetised-Preamble Based MAC Protocols: A Solution to Hidden-Node Problem in WSNs**

S. Choobkar and R. Dilmaghani

**An Efficient Measurement Report Mechanism for Long Term Evolution Networks**

S. F. Chou, H. L. Chao and C. I. Liu

**CRSM-11: Signal Processing for Cognitive Radio****GSM Downlink Spectrum Occupancy Modeling**

L. Mendes, L. Gonçalves and A. Gameiro

**UEP Framework in Multiresolution Modulation for Robust Image Broadcasting**

H. Datta and J. Ilow

**CRSM-12: Opportunistic Spectrum Access****On Discretizing the Exponential on-off Primary Radio Activities in Simulations**

Z. Wang, Y. H. Chew and C. Yuen

**Multi-rate Opportunistic Spectrum Access in Multi-hop Ad Hoc Networks**

Ari Raptino H, M. Bandai and T. Watanabe

**Decentralized Coordinated Downlink Beamforming for Cognitive Radio Networks**

H. Pennanen, A. Tölli and M. Latva-aho

**ITN-3: ITS Networks and Networking Technologies****On the Optimal MAC Layer Capacity of Delay Tolerant Mobile Ad Hoc Networks with a Finite Number of Nodes**

S. Vassilaras and I. Christou

**Using a symmetric game based in Volunteer's Dilemma to improve Vanets multihop broadcast communication**

F. Roberto, J. Celestino Júnior and H. Schulzrinne

**Opportunistic Trajectory-based Routing for V2V Communications**

H. N. Dau and H. Labiod

**LPAN-11: Physical Layer Design - 2****Mutual-Information Based Rate-Adaptation for Multi-User TH-IR-UWB coded system**

G. Bocolini and C. Poulliat

**A Space-Time Precoded Hybrid Beamforming Architecture for Broadband Transmissions in 60GHz Radio**

Y. H. Yin, L. K. Chiu and S. H. Wu

**Computationally Efficient Implementation for Incremental Redundancy within Wireless Networks**  
T. Elshabrawy and M. Elsharkawy

**LPAN-12: Medium Access Control - 3**

**Efficient mm-Wave Beamforming Protocol for Group Environments**  
J. Haapola and S. Kato

**Resource Allocation in Optical Wireless Networks**  
B. Ghimire and H. Haas

**Throughput of CSMA in  $\eta$ - $\mu$  Fading Channels**  
E. Leonardo and M. D. Yacoub

**SL-6: Secrecy Capacity of Wireless Communications**

**On the Ergodic Secrecy Rate of Multiple-Antenna Wiretap Channels Using Artificial Noise and Finite-Rate Feedback**  
L. Sun and S. Jin

**Closed-form Approximations for Secrecy Capacity in Rayleigh-fading Multi-antenna Systems**  
R. Qian, Y. Qi, W. Wang and J. Yang

**Increasing Secrecy Capacity via Joint Design of Cooperative Beamforming and Jamming**  
X. Guan, C. Yueming, Y. Wang and W. Yang

**WACC-20: Diversity Techniques - II**

**Myopic Multi-Hop Transmission Strategies in Layered Wireless Networks**  
M. Girnyk and L. K. Rasmussen

**A simple optimal solution for relay assignment in cooperative systems based on the max-min criterion**  
A. Minayi Jalil, V. Meghdadi, A. Ghayeb and J. P. Cances

**Outage Analysis of Hybrid-ARQ Protocols in Coherent Free-Space Optical Communications**  
S. Molla Aghajanzadeh and M. Uysal

**WACC-21: Cross Layer Design – II**

**Four-Level UEP of H.264 Scalable Video Coding using Discrete Wavelet Transform**  
A. Morcos and T. Elshabrawy

**Cross-Layer Dynamic Subcarrier Allocation in Multiuser OFDM System with MAC Layer Diverse QoS Constraints**  
P. Mi and X. Wang

**Cross-layer Dynamic Route Selection in Wireless Multiuser Two-hop Networks**  
K. Rahimi Malekshan and F. Lahouti

**WACC-22: Multiple Access Techniques - I**

**Successive Interference Cancellation Techniques for LTE Downlink**  
J. Axnäs, Y. P. E. Wang, M. Kamuf and N. Andgart

**Impact of Receiver Interference Cancellation Techniques on the Base Station Power Consumption in MIMO Systems with Inter-Cell Interference**  
I. Ku, C. Wang, J. Thompson and P. Grant

**WACC-23: Routing and Scheduling - I**

**Towards Distributed and Dynamic Backpressure Routing for Wireless Mesh Networks**  
J. Núñez-Martínez, J. Manges-Bafalluy and M. Portoles-Comeras

**Analysis of Deficit Round Robin Scheduling for Future Aeronautical Data Link**  
S. Ayaz, F. Hoffmann, R. German and F. Dressler

**Efficient Scheduling for Relay-Aided Broadcasting with Random Network Codes**  
Lu Lu, M. Xiao, L. K. Rasmussen and M. Skoglund

**WNHC-6: WNHC - MAC & Cross Layer Design II**

**A Power Efficient Pulsed MAC Protocol for Body Area Networks**  
D. Layerle and A. Kwasinski

**Performance Benchmarking for Wireless Body Area Networks at 2.4 GHz**  
Yu Ge, J. W. Kwan, J. S. Pathmasuntharam, Z. Di, T. See, W. Ni, C. W. Kim, T. M. Chiam and M. Ma

**A Cooperative Transmission Scheme for Real-Time Data Gathering in a Wireless Body Area Network**  
S. Hara, D. Anzai, K. Yanagihara, K. Takizawa and K. Hamaguchi

**Wednesday, September 14****09:00 - 10:00****PL-3: Plenary Talks - Jalal Mapar and Riuji Kohno****10:00 - 10:30****Coffee Break****10:30 - 12:00****AID-9: Femtocell Systems III*****Throughput and Fairness of Femtocell Users in OFDM Macrocell-Femtocell Networks***  
P. Tarasak and T. Q. S. Quek***Optimization of Power Control Algorithm for Femtocells Based on Frame Utilization***  
P. Mach and Z. Becvar***Downlink Femto-Macro ICIC with Blind Long-Term Power Setting***  
J. Guillet, L. Brunel and N. Gresset***User-vote Assisted Self-organizing Load Balancing for OFDMA Cellular Systems***  
L. Xu, Y. Chen, J. Schormans, L. Cuthbert and T. Zhang***Distributed Pareto-Optimal Power Control in Femtocell Networks***  
D. Ngo, L. Le and T. Le-Ngoc**CRSM-13: Cognitive and Cooperative Radio Networks*****A Novel Spectrum Aware Routing Scheme for Multi-hop Cognitive Radio Mesh Networks***  
P. Shamsad and T. Fujii***Cognitive Relaying with Time Incentive: Protocol Design for Multiple Primary Users***  
T. Nadkar, V. Thumar, K. Shenoy, U. Desai and P. Merchant***An Efficient Pre-scanning Scheme for Handoff in Cooperative Vehicular Networks***  
T. Y. Wu, W. T. Lee, F. H. Liu, H. L. Chan and T. H. Lin***Outage in a Cellular Network Overlaid with an Ad hoc Network: The Uplink Case***  
A. Kahlon, S. Periyalwar, H. Yanikomeroglu and S. Szyszkowicz***Trust Computation Through Anomaly Monitoring in Distributed Cognitive Radio Networks***  
S. Bhattacharjee, S. Debroy and M. Chatterjee**CRSM-14: Performance Modeling and Analysis*****Modeling and Performance Analysis of Cooperative Communications in Cognitive Radio Networks***  
M. Khabazian and S. Aïssa***Further Results On the Performance of Energy Detector over Generalized Fading Channels***  
O. Olabiyi and A. Annamalai***Performance of Cognitive Radio Networks under ON/OFF and Poisson Primary Arrival Models***  
S. L. Castellanos-Lopez, F. Cruz-Pérez and G. Hernandez-Valdez***Capacity of Cognitive Radio under Imperfect Secondary and Cross Link Channel State Information***  
L. Sboui, Z. Rezki and M. S. Alouini***Performance based Channel Allocation in IEEE 802.22 Networks***  
S. Debroy, S. Bhattacharjee and M. Chatterjee**LPAN-13: Mobility and Resource Management*****Channel Ranking Algorithm and Ranking Error Bounds: A Two Channel Case***  
A. Mahmood, K. Koufos and R. Jäntti***Mobile WiMAX Video Quality and Transmission Efficiency***  
V. Sgardoni, D. Halls, S. M. M. Bokhari, D. Bull and A. Nix***Cross-Layer Interference Minimization-Oriented Channel Assignment in IEEE 802.11 WLANs***  
D. Fan, X. Wang and P. Mi***Femtocell wireless time-variant stochastic channel modelling related to indoor human activity***  
Y. Corre, M. Brau and Y. Lostanlen***Mobility Diversity in Mobile Wireless Networks***  
V. Havary-Nassab, S. Shahbazpanahi and S. Valaee**LPAN-14: Relaying and Cooperative Communication - 2*****Throughput Optimal Resource Management of Cooperative Networks with Mobile Clouds***

M. Kangas and S. Glisic

**Performance Analysis of Cooperative Communication with Heterogeneous Relays**

M. Jeong, S. Hwang, D. K. Kim and J. Yang

**Joint Optimization of HD Video Coding Rates and Unicast Flow Control for IEEE 802.11ad Relaying**

J. Kim, Y. Tian, A. Molisch and S. Mangold

**Exact BEP of Cooperative MC-CDMA Systems using Selective Threshold Digital Relaying**

H. Hakim, H. Boujemaa and W. Ajib

**Joint Relay Selection and Scheduling Algorithm for Inter-Piconet Communications in Millimeter Wave Wireless Personal Area Networks**

J. H. Liu and H. L. Chao

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

Chair: Luis M. Correia. Panelists: Mohamed Cheriet, Magnus Olsson, Matti Latva-aho, Roberto Fantini

**SL-7: Localization**

**Estimation of Prior Positioning Method Performance in LTE**

T. Wigren, I. Siomina and M. Anderson

**Anchorless Localization with Local Manifold Flattening**

D. Popescu, M. Hedley and T. Sathyan

**AOD/AOA/TOA-based 3D Positioning in NLOS Multipath Environments**

X. Wei, N. Palleit and T. Weber

**Precoder Design for Improving the Performance of MUSIC-based Angle-of-Arrival Estimator**

Li Zhang, Y. H. Chew and W. C. Wong

**High Performance Non-Line-of-Sight Identification using MIMO-OFDM Space Frequency Correlation Statistics**

W. Xu and S. Zekavat

**WACC-24: Cooperative Communication - III**

**In-band and out-band relaying configurations for dual-carrier LTE-Advanced system**

J. Gora and S. Redana

**Dynamic Decode and Forward for the Multi-Access Relay Channel with Finite Block Length**

C. P. Lee and H. J. Su

**Symbol-Asynchronous Compute-and-Forward**

H. Najafi, M. O. Damen and A. Hjørungnes

**Optimization of Random Selection and Forwarding for Multiple-Relay Networks**

I. Chatzigeorgiou and A. Tarable

**A Performance Study of Energy Detection for Dual-Hop Transmission with Fixed Gain Relays: Area under ROC Curve (AUC) Approach**

S. Alam, O. Olabiyyi, O. Odejide and A. Annamalai

**WACC-25: Radio Resource Management - III**

**Wireless Mesh Networks: Energy - Capacity Tradeoff and Physical Layer Parameters**

A. Ouni, H. Rivano and F. Valois

**Network-Power-Saving Resource Allocation Algorithm with Hybrid Communication Mode for OFDMA Relay Networks**

J. Joung and S. Sun

**Distributed Antenna Systems With Frequency Reuse**

H. Osman, H. Zhu and T. Alade

**Full Reuse Resource Partition for Multihop Relay Networks with Tree and Mesh Structures**

B. Fan and A. Saadani

**EVM Considerations for Convergent Multi-Standard Cellular Base-Station Transmitters**

S. Kowlgi, P. Mattheijssen, B. Corinne and T. Ridgers

**WACC-26: Interference Management - II**

**MSE-Based Orthogonal Beamformer Design for Interference Alignment in a MU-MIMO Cellular Network**

M. A. Torabi, J. F. Frigon and C. Cardinal

**Optimal Degree of Freedom for MIMO Interference Channels with Constant Channel Coefficients**

S. Jung and J. Lee

**Capacity Region of K-User Discrete Memoryless Interference Channels with a Mixed Strong-Very Strong Interference**

A. Ganesan and B. S. Rajan

**Generalized Precoder Design for MIMO Interference Channel Based on Interference Alignment**

H. Sun and W. Fang

**A Divide-and-Conquer Approach to Mitigate Relay-to-Relay Interference**

A. Bou Saleh, O. Bulakci, S. Redana, B. Raaf and J. Hämäläinen

**WACC-27: Analysis, Simulation and Performance Evaluation - II****Symbol Error Rate Analysis of Relay-based Wireless Systems**

I. Abualhaol

**On the Performance Analysis of Cooperative Non-Regenerative Relay Systems over Generalized Fading Channels**

O. Olabiyi and A. Annamalai

**Outage Performance in Cooperative CDMA Systems over Nakagami-m Fading Channels**

A. M. A. Mehemed and W. Hamouda

**Performance Analysis of Opportunistic Relaying Over Imperfect Non-identical Log-normal Fading Channels**

A. Kalantari, M. Mohammadi and M. Ardebilipour

**WACC-28: Routing and Scheduling - II****Utility-based Joint Routing and Spectrum Partitioning in Relay LTE-Advanced Networks**

T. Liu and M. Rong

**LTE Frequency Selective Scheduling Performance and Improvements**

P. Ökvist, A. Simonsson and H. Asplund

**User Scheduling Scheme for Network MIMO System with Feedback Reduction**

W. Chunyan, Z. Zhang, R. Yin and C. Wang

**Cell-Grouping Based Distributed Beamforming and Scheduling for Multi-cell Cooperative Transmission**

X. Hou, E. Björnson, C. Yang and M. Bengtsson

**Multiuser Hybrid Switched-Selection Diversity Systems**

M. Shaqfeh, H. Alnuweiri and M. S. Alouini

**WNHC-7: WNHC - Wireless Sensor Networks & MANET****X-Geocasting: Data Dissemination to Mobile Sink Groups in Wireless Sensor Networks**

S. Park, E. Lee, Y. Yim, F. Yu and S. H. Kim

**Data Dissemination Protocol based on Independent Grid Structure in Wireless Sensor Networks**

E. Lee, S. Park, H. Park, Y. Yim and S. H. Kim

**Energy Efficient Data Dissemination Protocol for a Mobile Sink Group in WSNs**

H. S. Mo

**Weighted Sum-Rate Maximization in Singlecast and Multicast Wireless Networks - Global Optimum via Branch and Bound**

M. Codreanu, P. Weeraddana, M. Latva-aho and A. Ephremides

**Social Mobility Models using Ant Colony Systems**

L. Harfouche, H. Costantini and S. Boumerdassi

12:00 - 13:30

Lunch

13:30 - 15:00

**AID-10: Self-Configuration Techniques****Self-organized Network Management functions for Relay enhanced LTE-Advanced Systems**

K. Samdanis and M. Brunner

**Energy-Efficient Radio Resource Management in Self-Organised Multi-Radio Wireless Mesh Networks**

L. Ferreira and L. Correia

**Self-Configuring Switched Multi-Element Antenna System for Interference Mitigation in Femtocell Networks**

R. Razavi and H. Claussen

**Base Station distributed Handover Optimization in LTE Self-Organizing Networks**

L. Ewe and H. Bakker

**Cost and Feasibility Analysis of Self-deployed Cellular Network**

D. H. Kang, K. W. Sung and J. Zander

**AID-11: Frequency Re-Use/Cellular System Techniques****Adaptive Flexible Spectrum Usage Algorithms in Heterogeneous Cell Deployment**

J. Mestre, N. Pratas, N. Prasad, A. Rodrigues and R. Prasad

**A Spatial Study of Mixed Wireless and Wireline Heterogeneous Networks**

H. Y. Chen and C. h. Lee

**A Performance Evaluation Framework for Control Loop Interaction in Self Organizing Networks**

X. Gelabert, B. Sayrac and S. Ben Jemaa

**Efficiency of Partial Frequency Reuse in Power Used Depending on User's Selection for Cellular Networks**

B. Krasniqi and C. Mecklenbräuker

**Adaptive Handoff Initiation Method for Improving Throughput in Data-Oriented Communications Networks**  
H. W. Chang and L. C. Wang

#### CRSM-15: Cognitive Radio Performance

**On Adaptive Modulation and Power Control for Cognitive Radios with Primary User Outage Constraint**  
C. C. Chai and Y. H. Chew

**Performance of a Sensor Network Aided Cognitive Radio System**  
P. Grønsund and O. Grøndalen

**Performance of Cooperative Spectrum Sensing with Correlated Cognitive Users' Decisions**  
L. Khalid and A. Anpalagan

**Aggregate Interference and System Performance in Finite Area Cognitive Radio Networks**  
L. Vijayandran, P. Dharmawansa, T. Ekman and C. Tellambura

**Controlling the interference from multiple secondary systems at the TV cell border**  
K. Koufos, K. Ruttik and R. Jäntti

#### CRSM-16: Cognitive Radio Resource Management

**Spectrum Markets for Service Provider Spectrum Trading with Reinforcement Learning**  
N. Abji and A. Leon-Garcia

**Cooperative Game Theory and Auctioning for Spectrum Allocation in Cognitive Radios**  
J. Rajasekharan, J. Eriksson and V. Koivunen

**Weighted Sum Rate Maximization in the Underlay Cognitive MISO Interference Channel**  
L. Gallo, F. Negro, I. Ghauri and D. Slock

**Opportunistic Load and Spectrum Management for Mobile Communications Energy Efficiency**  
O. Holland, O. Cabral, F. Velez, A. Aijaz, P. Pangalos and H. Aghvami

**ENPA and EBPA Models for Primary User Activity Based Power Allocation in Cognitive Systems**  
M. Goonewardena, N. Rajatheva, T. Chahed and D. Zeghlache

#### LPAN-15: Multihop Routing

**An Iterative Routing Algorithm for Energy Minimization in Coded Wireless Networks**  
L. Huang and C. W. Sung

**A New Proposal for Reliable Unicast and Multicast Transport in Delay Tolerant Networks**  
A. Ali, T. Chahed, E. Altman, M. Panda and L. Sassatelli

**Replication Schemes for Peer-to-Peer Content in Wireless Mesh Networks with Network Support**  
A. Al Asaad, S. Gopalakrishnan and V. Leung

**Performance Evaluation of Wireless Multihop Communications for an Indoor Environment**  
P. Spachos, F. Bui, L. Song, Y. Lohan and D. Hatzinakos

**On the Statistical Behaviors of Network-level Features within MANETs**  
D. Arora, E. Millman and S. Neville

#### Panel 6: Mobile Internet for the Emerging Economies

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

#### SL-8: Cooperative Localization Methods

**A Particle Filtering Algorithm for Cooperative Tracking of Nodes in Wireless Networks**  
T. Sathyan and M. Hedley

**Cooperative TDOA Estimation with Trigger Relay**  
H. Lu, P. Martinez and H. Nikookar

**Cooperative Network Localizability via Semidefinite Programming**  
H. Nouredine, D. Castelain and R. Pyndiah

**Cooperative Geo-location in Underground Mines: A Novel Fingerprint Positioning Technique Exploiting Spatio-Temporal Diversity**  
S. Dayekh, S. Affes, N. Kandil and C. Nerguizian

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

**Robust Training Sequence Design for Spatially Correlated MIMO Channels and Arbitrary Colored Disturbance**  
N. Shariati and M. Bengtsson

**Second-Order Moment-Based Direction Finding of a Single Source for ULA systems**  
F. Bellili, S. Affes and A. Stéphenne

**Hybrid Time/Frequency Domain Compensator for RF Impairments in OFDM Systems**  
A. Kiayani, L. Anttila, Y. Zou and M. Valkama

**Channel Reciprocity of Compact Antenna Array and the Calibration**

J. Shi, Luo and H. Sun

**Wideband MIMO Channel Diagonalization in the Time Domain**

R. Brandt and M. Bengtsson

**WACC-30: Relay Assisted Communications - III****Error Probability Analysis of Two-Way Amplify-and-Forward Relaying in the Presence of Imperfect Channel Estimations**

S. Ikki and S. Aissa

**Outage Probability of Dual-Hop Partial Relay Selection with Feedback Delay in the Presence of Interference**

F. AL-Qahtani, R. Radaydeh and H. Alnuweiri

**Bounds on the Throughput Performance of PU2RC**

A. Sattarzadeh and A. Olfat

**Performance Analysis of SC-FDMA in the Presence of Receiver Phase Noise**

G. Sridharan and T. J. Lim

**Fairness Analysis in Cellular Networks using Stochastic Petri Nets**

R. Schoenen, A. Bin Sediq, H. Yanikomeroglu, G. Senarath and Z. Chao

**WACC-31: MIMO Techniques - III****On Optimum End-to-End Distortion in Delay-Constrained Wideband MIMO Systems**

J. Chen and D. Stock

**Adaptive Beamforming Algorithms for Wireless Link Layer Multicasting**

M. Khojastepour, A. Khajehnejad, K. Sundaresan and S. Rangarajan

**SCSI Aided Multi-Beam Selection for Transmit Correlated Channels**

Q. Sun, R. Liu, Y. Zhang, J. Wang and X. Gao

**Performance of LTE in Rural Areas - Benefits of Opportunistic Multi-User MIMO**

I. Latif, F. Kaltenberger, R. Ghaffar, R. Knopp, D. Nussbaum, H. Callewaert and G. Scot

**Improving Downlink Multiuser MIMO Throughput in LTE-Advanced Cellular Systems**

G. Yue, N. Prasad, M. Jiang, M. Khojastepour and S. Rangarajan

**WACC-32: Modulation and Coding - II****On the Performance of Hybrid-ARQ with Code Combining over Double Rayleigh Fading Channels**

A. Chelli and M. Pätzold

**On the Distribution of Instantaneous Power in Single Carrier: Effective Numerical Approach**

I. Gutman and D. Wulich

**Completion Delay Reduction in Lossy Feedback Scenarios for Instantly Decodable Network Coding**

S. Sorour and S. Valaee

**Novel Approximation for the Gaussian  $Q$ -Function and Related Applications**

Q. Shi

**WACC-38: Multiuser and Cooperation****Reverse Link Sum Rate for Multi-Cell Multi-User Cellular Systems with Successive Interference Cancellation**

Q. Huang, X. Liu and H. Yang

**Multi-User Cross-Layer Optimization for Delay-Sensitive Applications Over Wireless Multihop Mesh Networks**

A. Awad, O. Nasr and M. Khairy

**Joint Cooperative Scheduling and Power Control for Interference-Limited Wireless Networks**

L. Le and T. Le-Ngoc

**Controlling Variability of Dynamic RRM in Relay Enhanced OFDMA-Based Networks**

M. Pikhletsky, F. Khafizov, J. Zhang and H. Zhuang

**15:00 - 15:30****Coffee Break****15:30 - 17:00****AID-12: Cooperative Techniques****Metrics for Optimal Relay Selection in Cooperative Wireless Networks**

R. Sadeghi, J. P. Barraca and R. Aguiar

**Cooperation and Competition between Wireless Networks in Shared Spectrum**

D. H. Kang, K. W. Sung and J. Zander

**LF-Ant: A Bio-inspired Cooperative Cross-layer Design for Wireless Sensor Networks**

M. P. Sousa, W. Lopes and M. Alencar

***Energy Efficient Cooperative Strategies in Hybrid Aerial-Terrestrial Networks for Emergencies***

S. Kandeepan, K. Gomez, T. Rasheed and L. Reynaud

***Consensus-based decentralization of interior point methods for heterogeneous networks energy saving***

M. Khanfouci and N. Gresset

**CRSM-17: Cognitive Radio and HetNet Performance**

***Interference and Performance Analysis for Cognitive Adhoc Network with Relay Assisted Primary Link***

U. Wijewardhana, N. Rajatheva and M. Latva-aho

***Symbol Error Rate Analysis in Multiuser Underlay Cognitive Radio Systems***

L. Li, P. I. Derwin and M. Pesavento

***Experimental and Analytical Study regarding Transmission Quality of Wireless LAN System - for implementation of heterogeneous wireless network -***

K. Kashiki and A. Yamaguchi

***Performance of Neural Network Based Distributed Radio Resource Usage Optimization Algorithms in Realistic Heterogeneous Wireless Networks***

M. Hasegawa, K. Ishizu, H. Murakami and H. Harada

15:30 - 17:20

**CRSM-18: Spectrum Sensing, Access and Management**

***Distributed Compressed Sensing for Block-sparse Signals***

X. Wang, G. Wenbin, Y. Lu and W. Wang

***A Primary Traffic Aware Opportunistic Spectrum Sensing for Cognitive Radio Networks***

F. Zhang, W. Wang and Z. Zhang

***An Autoregressive Approach for Spectrum Occupancy Modeling and Prediction Based on Synchronous Measurements***

A. Gorcin, H. Celebi, K. Qaraqe and H. Arslan

***Performance Evaluation of Secondary Users in Dynamic Spectrum Access System***

H. Qing, S. Xu and X. Jin

***Dynamic Spectrum Sharing for Two-Layer Cellular Networks***

R. T. Juang, K. P. Yar, P. Ting, H. P. Lin and D. B. Lin

15:30 - 17:00

**ITN-4: Radio Technologies, ITS Communications**

***NEMO Route Optimization with Strong Authentication for Aeronautical Communications***

C. Bauer

***On the Single-Target Accuracy of OFDM Radar Algorithms***

M. Braun, C. Sturm and F. Jondral

***Extending the DSRC's Control Channel using Cognitive Networking Concepts and Fuzzy Logic***

A. J. Ghandour, K. Fawaz, H. Artail and R. Hamade

***Infrastructure-to-Vehicle Cooperative Communications with Decode-and-Forward Relaying***

M. Feteiha and M. Uysal

**WACC-33: Multiple Access Techniques - II**

***Sum MSE Optimization for Downlink Multiuser MIMO Systems with per Antenna Power Constraint: Downlink-Uplink Duality Approach***

T. Bogale and L. Vandendorpe

***Application of Tselser's Safety-First Criterion to Adaptive Power Control***

A. Kotelba and A. Mämmelä

***Adaptive Bit Allocation Methods for Multi-cell Joint Processing Systems with Limited Feedback***

S. Yu, Y. T. Kim, S. H. Park and I. Lee

***A Constellation Power Allocation Scheme for Two-User Gaussian MAC***

J. Harshan and B. S. Rajan

***Adaptive Differential Feedback in Time-Varying Multiuser MIMO Channels***

M. N. Islam and R. Adve

**WACC-34: Antenna and Propagation**

***Controlling Coupling Between Two Transmitting Antennas for MIMO Handset Applications***

S. Ali and J. Warden

***Modelling, Measurement and Analysis of Narrowband Fast Fading on Relay Channels***

G. Levin, R. Bultitude and H. Zhu

***Design of RF/Microwave Efficient Buildings Using Frequency Selective Surface***



I. Ullah

***Spectral Efficiency Analysis of Distributed Antenna System for In-Building Wireless Communication***  
T. Alade, H. Zhu and H. Osman

#### WACC-35: Modulation and Coding - III

***Heuristic Approach to Construct Three-Dimensional Codes for Feedback-Based MIMO-CDMA***  
Y. Hayashi and M. Hamamura

***FPGA Design of a Truncated SVD Based Receiver for the detection of SEFDM Signals***  
R. Grammenos, S. Isam and I. Darwazeh

***Linear Dispersion Codes Design for Asynchronous Cooperative Communications***  
W. Wang and F. C. Zheng

***Cyclic Prefix and Intra-fix Insertion for Multi-h CPM based on Tilted Phase Transformation***  
S. Saleem and G. Stüber

#### WACC-36: Field Tests and Measurements

***Large Scale Field Trial Results on Time Domain Compression for Uplink Joint Detection***  
M. Grieger and G. Fettweis

***Radio Propagation Measurements and Channel Characterisation Pertinent to Urban Microcellular Communications Systems Incorporating Relay Links***  
R. Bultitude, G. Levin and H. Zhu

***Field Trial Results for Integrated WiMAX and Radio-over-Fiber Systems on High Speed Rail***  
H. W. Chang, M. C. Tseng, S. Y. Chen, M. H. Cheng and S. K. Wen

#### WACC-37: Wireless IP and Multimedia Services

***Optimization of rateless-coded asynchronous multimedia multicast***  
Yu Cao, S. Blostein and W. Y. G. Chan

***CSoHS Voice Capacity in HSPA networks with realistic overhead channel modeling***  
P. K. Vitthaladevuni, R. Kapoor, O. Ozturk and W. Zeng

***Application-centric Content Delivery Schemes for Future Wireless Networks***  
P. Lungaro and Z. Segall

***Dynamic Power Allocation for Multicast/Broadcast Services with Cooperative Distributed Antenna Systems***  
P. H. Kuo and P. Ting