

2011 7th International Wireless Communications and Mobile Computing Conference

(IWCMC 2011)

**Istanbul, Turkey
4-8 July 2011**

Pages 1-753



**IEEE Catalog Number: CFP1119E-PRT
ISBN: 978-1-4244-9539-9**

TABLE OF CONTENTS

TM-1: Invited Papers

Session Chair: Hamid Sadjadpour, University of California, Santa Cruz, USA

Outage Optimum Routing for Wireless Networks	1
B. Amiri (University of California, Santa Cruz, US)	
H.R. Sadjadpour (University of California, Santa Cruz, US)	
J.J. Garcia-Luna-Aceves (University of California at Santa Cruz, US)	
Localized Delay-Bounded and Energy-Efficient Data Aggregation in Low-Traffic Request-Driven Wireless Sensor and Actor Networks	7
Chendong Xu (SITE, University of Ottawa, CA)	
Xu Li (Université Lille Nord de France, CA)	
Amiya Nayak (SITE, University of Ottawa, CA)	
Ivan Stojmenovic (SITE, University of Ottawa, CA)	
Design and Experimentation of Rate Adaptation for IEEE 802.11n WLANs	13
Arafet Ben Makhlof (Hong Kong University of Science and Technology, CN)	
Mounir Hamdi (Hong Kong University of Science and Technology, CN)	
Effect of Feedback Loss on Instantly Decodable Network Coding	21
Sameh Sorour (University of Toronto, CA)	
Shahrokh Valaee (University of Toronto, CA)	
TM-2: Wireless Mesh Networks (Wireless Networking Symposium)	
Session Chair: Lyes Khoukhi University of Technology of Troyes, France	
Session Co-Chair: Muhammad Ali Imran University of Surrey, United Kingdom	
The Efficiency-Collision Tradeoff with Adaptive CSMA/CA in Wireless Mesh Networks	29
Mathias Kurth (Humboldt University Berlin, DE)	
Jens-Peter Redlich (Humboldt University Berlin, DE)	
Connectivity in Multi-Channel Multi-Interface Wireless Mesh Networks	35
Carina Teixeira De Oliveira (Grenoble Informatics Laboratory, FR)	
Fabrice Theoleyre (CNRS - University of Strasbourg, FR)	
Andrzej Duda (Grenoble Institute of Technology, FR)	
Traffic Adaptation in Wireless Mesh Networks: Fuzzy-Based Model	41
Lyes Khoukhi (University of Technology of Troyes, FR)	
Ali El Masri (University of Technology of Troyes, FR)	
Ahmad Sardouk (University of Technology of Troyes, FR)	
Abdelhakim Hafid (University of Montreal, CA)	
Dominique Gaiti (University of Technology of Troyes, FR)	

An Automatic Mesh Scheme for IEEE 802.11 Wireless Mesh Networks	47
Hsueh-Wen Tseng (Industrial Technology Research Institute, TW)	
Yue-Ru Chuang (Fu Jen Catholic University, TW)	
Sheu Shian-Tsong (National Central University, TW)	
MBP: Routing Metric based on Probabilities for Multi-Radio Multi-Channel Wireless Mesh Networks	53
Mustapha Boushaba (University of Montreal, CA)	
Abdelhakim Hafid (University of Montreal, CA)	
Yayé Sarr (University of Montreal, CA)	
TM-3: Topology Control and Localization (Wireless Sensor Networks Symposium)	
Session Chair: Murat Demirbas, University at Buffalo, SUNY, USA	
Session Co-Chair: Nidal Nasser, University of Guelph, Canada	
TALS: Trigonometry-Based Ad-Hoc Localization System for Wireless Sensor Networks	59
Zaher Merhi (Lebanese International University, LB)	
Mohamed Elgamel (Arab Academy for Science, EG)	
Rafic Ayoubi (Univeristy of Balamand, LB)	
Magdy Bayoumi (Univeristy of Louisiana at Lafayette, US)	
Optimal Placement of Heterogeneous Wireless Sensor and Relay Nodes	65
Tamer M. Deyab (King Fahd University of Petroleum & Minerals, SA)	
Uthman Baroudi (King Fahd University of Petroleum & Minerals, SA)	
Shokri Z. Selim (King Fahd University of Petroleum & Minerals, SA)	
A Localized Cooperative Wideband Spectrum Sensing for Dynamic Access of TV Bands using RF Sensor Networks	71
Mohammed Aquil Mirza (King Abdullah University of Science and Technology, SA)	
Mohamed-Slim Alouini (King Abdullah University of Science and Technology, SA)	
Phase Synchronization Algorithms for Distributed Beamforming with Time Varying Channels in Wireless Sensor Networks	77
Ilaria Thibault (University of Bologna, IT)	
Giovanni E. Corazza (University of Bologna, IT)	
Lina Deambrogio (University of Bologna, IT)	
A Distributed Swarm-Intelligent Localization for Sensor Networks with Mobile Nodes	83
Pontus Ekberg (Uppsala University, SE)	
Edith C.-H. Ngai (Uppsala University, SE)	
Optimistic Concurrency Control for Multihop Sensor Networks	89
Onur Soysal (Google Inc., US)	
Bahadir Ismail Aydin (University at Buffalo, SUNY, US)	
Murat Demirbas (University at Buffalo, SUNY, US)	

TM-4: Heterogeneous Networks (Wireless Networking Symposium)

Session Chair: Omer Bulakci, Nokia Siemens Networks Radio Systems, DE

QoE-Aware Vertical Handover in Wireless Heterogeneous Networks	95
---	----

Kandaraj Piamrat (Technicolor R&D, FR)
Adlen Ksentini (IRISA / INRIA Rennes, FR)
César Vihó (IRISA / INRIA Rennes, FR)
Jean-Marie Bonnin (Telecom Bretagne, FR)

HaVe-2W3G: A Vertical Handoff Solution between WLAN, WiMAX and 3G Networks	101
---	-----

Blaise Angoma (ENSIAS, Université Mohammed V-Souissi, Rabat, MA)
Mohammed Erradi (ENSIAS, Université Mohammed V-Souissi, Rabat, MA)
Yahya Benkaouz (ENSIAS, Université Mohammed V-Souissi, Rabat, MA)
Amine Berqia (ENSIAS, Université Mohammed V-Souissi, Rabat, MA)
Mohammed Charaf Akalay (Meditel, MA)

A Novel Channel Handover Strategy to Improve the Throughput in Cognitive Radio Networks	107
--	-----

Beycan Kahraman (Istanbul Technical University, TR)
Feza Buzluca (Istanbul Technical University, TR)

The Devolution Effects of Flat Fading on Connected Wireless Networks under Shadowing	113
---	-----

Amar H. Kabashi (University of Leeds, UK)
Jaafar M.H. Elmirghani (University of Leeds, UK)

Impact of Preconditioning on the Convergence of Numerical Co-Channel Interference Approximations in Heterogeneous Networks	119
---	-----

Ömer Bulakci (Nokia Siemens Networks, DE)
Jyri Hämäläinen (Aalto University School of Electrical Engineering, FI)
Abdallah Bou Saleh (Aalto University School of Electrical Engineering, DE)
Simone Redana (Nokia Siemens Networks, DE)
Bernhard Raaf (Nokia Siemens Networks, DE)

TM-5: MIMO (Communication and Information Theory Symposium)

Session Chair: Omer Ileri, Tubitak, UEKAE, Turkey

Session Co-Chair: Hüseyin Arslan, University of Southern Florida, USA

On Achieving Exponential Diversity with Partial Channel State Information in MIMO Fading Channels	125
--	-----

Mohammed Zafar Ali Khan (Indian Institute of Technology, Hyderabad, IN)

Performance of Combined Transmit Antenna Selection and Maximal-Ratio Transmission in Nakagami-m Fading Channels	130
--	-----

Ahmet F. Coşkun (Gebze Institute of Technology, TR)
Oğuz Kucur (Gebze Institute of Technology, TR)

A Reduced Quantization Range Feedback Method for Time-Varying MIMO Systems	135
---	-----

Bruhtesfa Godana (Norwegian University of Science and Technology, NO)
Torbjörn Ekman (Norwegian University of Science and Technology, NO)

On the Power and Offset Allocation for Rate Adaptation of Spatial Multiplexing in Optical Wireless MIMO Channels	141
Ki-Hong Park (King Abdullah University of Science and Technology, SA) Young-Chai Ko (Korea University, KR) Mohamed-Slim Alouini (King Abdullah University of Science and Technology, SA)	
Reduced Complexity Sphere Decoding	147
Boyu Li (University of California, Irvine, US) Ender Ayanoglu (University of California, Irvine, US)	
Reduced Complexity Decoding for Bit-Interleaved Coded Multiple Beamforming with Constellation Precoding	152
Boyu Li (University of California, Irvine, US) Hong Ju Park (Samsung Electronics, KR) Ender Ayanoglu (University of California, Irvine, US)	
Coordinated Multi-Point Decoding with Dual-Polarized Antennas	157
Symeon Chatzinotas (University of Luxembourg, LU) Dimitrios Christopoulos (University of Luxembourg, LU) Björn Ottersten (Royal Institute of Technology, SE)	
 TM-6: Cooperative Communications (General Symposium)	
Session Chair: Mehrdad Dianati, University of Surrey, United Kingdom	
A Hybrid Data Fusion based Cooperative Localization Approach for Cellular Networks	162
Ziming He (University of Surrey, UK) Yi Ma (University of Surrey, UK) Rahim Tafazolli (University of Surrey, UK)	
A Genetic Algorithm for Joint Resource Allocation in Cooperative Cognitive Radio Networks	167
Wei Yang (National University of Defense Technology, CN) Dongsong Ban (National University of Defense Technology, CN) Weifa Liang (Australian National University, AU) Wenhua Dou (National University of Defense Technology, CN)	
Adaptive Modulation for Cooperative Communications with Noisy Feedback	173
Chuyi Qian (University of Surrey, UK) Yi Ma (University of Surrey, UK) Rahim Tafazolli (University of Surrey, UK)	
An Opportunistic Subcarrier Allocation Algorithm based on Cooperative Coefficient for OFDM Relaying Systems	P IC
Hamed Rasouli (Ryerson University, CA) Alagan Anpalagan (Ryerson University, CA)	
Improving Fairness by Cooperative Communications and Selection of Critical Users	184
Juan Awad (University of Surrey, UK) Muhammad A. Imran (University of Surrey, UK) Rahim Tafazolli (University of Surrey, UK)	

TM-7: Cryptography (Security Symposium)

Session Chair: M. Younis, University of Maryland-Baltimore County, USA

Session Co-Chair: Omar A. Al Ibrahim, Southern Methodist University, USA

Investigations for the Simulations of a Quantum Key Distribution in WiFi 189

Xu Huang (University of Canberra, AU)
Shirantha Wijesekera (University of Canberra, AU)
Dharmendra Sharma (University of Canberra, AU)

Quantum Cryptography based Key Distribution in IEEE 802.11 Networks – Analysis on Reconciliation Phase 195

Shirantha Wijesekera (University of Canberra, AU)
Xu Huang (University of Canberra, AU)
Dharmendra Sharma (University of Canberra, AU)

Design of a Time and Location based One-Time Password Authentication Scheme 201

Wen-Bin Hsieh (National Taiwan University of Science and Technology, TW)
Jenq-Shiou Leu (National Taiwan University of Science and Technology, TW)

A Novel Software-Based MD5 Checksum Lookup Scheme for Anti-Virus Systems 207

Nen-Fu Huang (National Tsing Hua University, TW)
Chia-Nan Kao (National Tsing Hua University, TW)
Rong-Tai Liu (BroadWeb Corp., TW)

Generalized Hash-Binary-Tree based Self-Healing Key Distribution with Implicit Authentication 213

Biming Tian (Curtin University, AU)
Song Han (Curtin University, AU)
Sazia Parvin (Curtin University, AU)
Miao Xie (Curtin University, AU)

TA-1: Invited Papers

Session Chair: Ahmed Helmy, University of Florida, USA

Design and Implementation of Mobile Networking Testbeds with Personality Profiles 220

Sungwook Moon (University of Florida, US)
Ahmed Helmy (University of Florida, US)

The Evolution of WLAN User Mobility and Its Effect on Prediction 226

Jeeyoung Kim (University of Florida, US)
Ahmed Helmy (University of Florida, US)

SPIRIT: A Simulation Paradigm for Realistic Design of Mature Mobile Societies 232

Saeed Moghaddam (University of Florida, US)
Ahmed Helmy (University of Florida, US)

Cooperative Q-Learning for Multiple Secondary Users in Dynamic Spectrum Access 238

Pavithra Venkatraman (Oregon State University, US)
Bechir Hamdaoui (Oregon State University, US)

A Kalman-Fuzzy Application for Rate Adaptation in IEEE 802.11 based Multihop Ad Hoc Networks	243
Basel Alawieh (Alcatel-Lucent, CA)	
Wail Mardini (Jordan University of Science and Technology, JO)	
Hussein Mouftah (University of Ottawa, CA)	

TA-2: Resource Allocation and Management-I (Wireless Networking Symposium)

Session Chair: Zakaria Hanzaz, University of Kaiserslautern, DE
Session Co-Chair: Ömer Bulakci Nokia Siemens Networks Radio Systems

A Low-Complexity Resource Allocation Scheme for Single-User MIMO Transmission	249
Tarik Akbudak (University of Duisburg-Essen, DE)	
Bo Zhao (University of Duisburg-Essen, DE)	
Meryem Simsek (University of Duisburg-Essen, DE)	
Andreas Czylwik (Universität Duisburg-Essen, DE)	

Distributed Resource Reservation for Real Time Sessions in Multi-Hop Wireless Networks	255
Xiaobo Yu (University of Surrey, UK)	
Pirabakaran Navaratnam (University of Surrey, UK)	
Klaus Moessner (University of Surrey, UK)	

Two Practical Resource Allocation Techniques for Fractional Frequency Reuse in IEEE 802.16m Networks	261
Juhee Kim (Seoul National University, KR)	
Wha Sook Jeon (Seoul National University, KR)	

A New Resource Distribution Model for Improved QoS in an Integrated WiMAX/WiFi Architecture	266
Md. Golam Rabbani (Monash University, AU)	
Joarder Kamruzzaman (Monash University, AU)	
Iqbal Gondal (Monash University, AU)	
Iftekhar Ahmad (Edith Cowan University, AU)	

Dynamic Fractional Frequency Reuse based Hybrid Resource Management for Femtocell Networks	272
Faisal Tariq (The Open University, UK)	
Laurence S. Dooley (The Open University, UK)	
Adrian S. Poulton (The Open University, UK)	
Yusheng Ji (National Institute of Informatics, JP)	

TA-3: Coverage and Security (Wireless Sensor Networks Symposium)

Session Chair: Kemal Akkaya, Southern Illinois University Carbondale, USA
Session Co-Chair: Nidal Nasser, University of Guelph, Canada

Prediction-Based Object Tracking and Coverage in Visual Sensor Networks	278
Tzung-Shi Chen (National University of Tainan, TW)	
Jiun-Jie Peng (National University of Tainan, TW)	
De-Wei Lee (National University of Tainan, TW)	
Hua-Wen Tsai (Lunghwa University of Science and Technology, TW)	

Enabling Remote Access to a Wireless Sensor Network by Exploiting IPv6 Capabilities	285
A. Leonardi (University of Catania, IT) S. Palazzo (University of Catania, IT) F. Scoto (University of Catania, IT) S. Signorello (University of Catania, IT)	
Feasibility of Wi-Fi Enabled Sensors for Internet of Things	291
Serbulent Tozlu (Robert Bosch LLC, US)	
A Study on Energy Efficient Multi-Tier Multi-Hop Wireless Sensor Networks for Freight-Train Monitoring	297
Puttipong Mahasukhon (University of Nebraska-Lincoln, US) Hamid Sharif (University of Nebraska-Lincoln, US) Michael Hempel (University of Nebraska-Lincoln, US) Ting Zhou (University of Nebraska-Lincoln, US) Tao Ma (University of Nebraska-Lincoln, US) Pradhumna Lal Shrestha (University of Nebraska-Lincoln, US)	
Enhanced Lifetime Maximization Algorithm for Wireless Sensor Network	302
Soodeh Amiri (Isfahan University of Technology, IR) Hossein Saidi (Isfahan University of Technology, IR) Ali Ghiasian (Isfahan University of Technology, IR) Massoud Reza Hashemi (Isfahan University of Technology, IR)	
A Novel Secure Localization Scheme Against Collaborative Collusion in Wireless Sensor Networks	308
Jinfang Jiang (Hohai University, CN) Guangjie Han (Hohai University, CN) Lei Shu (Osaka University, JP) Han-Chieh Chao (National Ilan University, TW) Shojiro Nishio (Osaka University, JP)	
Privacy-Aware Probabilistic Sampling for Data Collection in Wireless Sensor Networks	314
João Guerreiro (Uppsala University, SE) Edith C.-H. Ngai (Uppsala University, SE) Christian Rohner (Uppsala University, SE)	
 TA-4: Wireless Technologies-I (Wireless Networking Symposium)	
Session Chair: Feza Buzluca, Istanbul Technical University, Turkey	
A Novel Cross-Layer Design and QoS Evaluation for Wireless Multiservice Networks	320
Sonia Ben Rejeb (SUPCOM, TN) Sami Tabbane (SUPCOM, TN)	
Hybrid Sensor Deployment for Surveillance and Target Detection in Wireless Sensor Networks	326
Yun Wang (Southern Illinois University, US) Matthew Wilkerson (Southern Illinois University, US) Xudong Yu (Southern Illinois University, US)	
Normalized Measure of Dispersion Study for Delay Evaluation of Mobile Nodes in IEEE 802.11 Multi-Hop Wireless Networks	331
Faisal Iradat (Institute of Business Administration, PK) Waseem Arain (Institute of Business Administration, PK) Sergey Andreev (Tampere University of Technology, FI)	

On Exploiting the On-Off Characteristics of Human Speech to Conserve Energy for the Downlink VoIP in WiMAX Systems	337
Xiao-Hui Lin (Shenzhen University, CN) Ling Liu (Shenzhen University, CN) Hui Wang (Shenzhen University, CN) Yu-Kwong Kwok (University of Hong Kong, CN)	
Load-Balancing and Energy Aware Routing Protocol for Real-Time Flows in Mobile Ad-Hoc Networks	343
Jihen Drira Rekik (Manouba University, TN) Leïla Baccouche (Manouba University, TN) Henda Ben Ghézala (Manouba University, TN)	
TA-5: Coding (Communication and Information Theory Symposium)	
Session Chair: Erdal Panayirci, Kadir Has University, Turkey	
Session Co-Chair: Alkan Soysal, Bahcesehir University, Turkey	
A New Segmental Turbo Receiver for LTE Single User Uplink over Double Selective Channels	349
Rui Liu (Southeast University, CN) Qiang Sun (Southeast University, CN) Shi Jin (Southeast University, CN) Xiqi Gao (Southeast University, CN)	
EXIT Chart Analysis for Turbo LDS-OFDM Receivers	354
Razieh Razavi (University of Surrey, UK) Muhammad Ali Imran (University of Surrey, UK) Rahim Tafazolli (University of Surrey, UK)	
Improved Labelling Diversity for Iteratively-Decoded Multi-Antenna Systems	359
Maciej Krasicki (Poznan University of Technology, PL)	
Multi-Rate QC-LDPC Scheme for Narrowband Powerline Communication System	365
Qi Zhang (Tsinghua University, CN) Fang Yang (Tsinghua University, CN) Jian Song (Tsinghua University, CN)	
Further Results on Differential Encoding by a Table	370
Ruey-Yi Wei (National Central University, TW) Chu-Jung Lin (National Central University, TW) Yi-Min Wu (National Central University, TW) Pei-En Sheih (National Central University, TW)	
Performance Analysis of Interleave-Division Multiple Access for Uplink in Multi-Cell Environment	376
Tomoko Matsumoto (KDDI R&D Laboratories Inc., JP) Yasuyuki Hatakawa (KDDI R&D Laboratories Inc., JP) Satoshi Konishi (KDDI R&D Laboratories Inc., JP)	

TA-6: Multimedia over Sensor and Mesh Networks

(Multimedia over Wireless Symposium)

Session Chair: Marc St-Hilaire, Carleton University, Canada

An Exact Algorithm for Providing Multi-Perspective Event Coverage in Wireless Multimedia Sensor Networks

382

Enes Yildiz (Southern Illinois University Carbondale, US)
Kemal Akkaya (Southern Illinois University Carbondale, US)
Esra Sisikoglu (University of Missouri, US)
Mustafa Sir (University of Missouri, US)

Cross Layer Architecture for Supporting Multiple Applications in Wireless Multimedia Sensor Networks

388

Muhammad Omer Farooq (Carleton University, CA)
Thomas Kunz (Carleton University, CA)
Marc St-Hilaire (Carleton University, CA)

IQAR: Image Quality Aware Routing for Wireless Multimedia Sensor Networks

394

Pinar Sarisaray Boluk (Istanbul Technical University, TR)
Kerem Irgan (Yeditepe University, TR)
Sebnem Baydere (Yeditepe University, TR)
Emre Harmanci (Istanbul Technical University, TR)

A Cross-Layer Approach in Enabling Multimedia Transmission Over Cognitive UWB Network

400

Norazizah Mohd Aripin (Universiti Teknologi Malaysia, MY)
Norsheila Fisal (Universiti Teknologi Malaysia, MY)
Rozeha A. Rashid (Universiti Teknologi Malaysia, MY)

User-Perceived-Quality Aware Replication Strategy for Video Streaming over Wireless Mesh Networks

406

Nguyen-Son Vo (Huazhong University of Science and Technology, CN)
Xu Du (Huazhong University of Science and Technology, CN)
Trung Q. Duong (Blekinge Institute of Technology, SE)
Wenqing Cheng (Huazhong University of Science and Technology, CN)

TA-7: Attacks and Counter Measures (Security Symposium)

Session Chair: Omar A. Al Ibrahim, Southern Methodist University, USA

Session Co-Chair: M. Younis, University of Maryland-Baltimore County, USA

Security Architecture for Resource-Limited Environments

412

Suku Nair (Southern Methodist University, US)
Subil Abraham (Southern Methodist University, US)
Omar Al Ibrahim (Southern Methodist University, US)

Finding DDoS Attack Sources: Searchlight Localization Algorithm for Network Tomography

418

Omer Demir (Turkish National Police, TR)
Bilal Khan (City University of New York, US)

A DOS-Resilient Design for Delay Tolerant Networks	424
Godwin Ansa (University of Surrey, UK)	
Haitham Cruickshank (University of Surrey, UK)	
Zhili Sun (University of Surrey, UK)	
Mohammad Al-Siyabi (University of Surrey, UK)	
Strategy based Proxy to Secure User Agent from Flooding Attack in SIP	430
Intesab Hussain (Université Paris Descartes, FR)	
Farid Naït-Abdesselam (Université Paris Descartes, FR)	
Effect of Mobility and Count of Base-Stations on the Anonymity of Wireless Sensor Networks	436
Zhong Ren (University of Maryland Baltimore County, US)	
Mohamed Younis (University of Maryland Baltimore County, US)	
Security Techniques for Zero Day Attacks	442
Udaya Tupakula (Macquarie University, AU)	
Vijay Varadharajan (Macquarie University, AU)	
 TA-8: Cognitive Networks (Cooperative and Cognitive Networks Workshop)	
Session Chair: Sema Oktug, Istanbul Technical University, Turkey	
Session Co-Chair: Bechir Hamdaoui, Oregon State University, USA	
Framework for Utility Driven Congestion Control in Delay Tolerant Opportunistic Networks	448
Milena Radenkovic (University of Nottingham, UK)	
Andrew Grundy (University of Nottingham, UK)	
Competitive Spectrum Sharing for Cognitive Radio on Scale-Free Wireless Networks	455
Amir Rajaei (University of Texas at San Antonio, US)	
Mahdy Saedy (University of Texas at San Antonio, US)	
Assadallah Sahebalam (Ferdowsi University of Mashhad, IR)	
Accurate Performance Analysis of Opportunistic Decode-and-Forward Relaying	460
Kamel Tourki (Texas A&M University at Qatar, QA)	
Hong-Chuan Yang (University of Victoria, CA)	
Mohamed-Slim Alouini (King Abdullah University of Science and Technology, SA)	
Maximizing the Concurrent Transmissions in Cognitive Radio Ad Hoc Networks	466
Md. Rakib Hassan (Monash University, AU)	
Gour Karmakar (Monash University, AU)	
Joarder Kamruzzaman (Monash University, AU)	
Opportunistic Spectrum Access using Collaborative Sensing in Nakagami-m Fading Channel with Real Fading Parameter	472
Omkalthoum El Bashir (United Arab Emirates University, AE)	
Mohammed Abdel-Hafez (United Arab Emirates University, AE)	
A Priority based Cooperative Spectrum Utilization Considering Noise in Common Control Channel in Cognitive Radio Networks	477
Gulnur Selda Uyanik (Istanbul Technical University, TR)	
Sema Oktug (Istanbul Technical University, TR)	

Performance Analysis of Cognitive Coexistence Systems with Sensing Errors	483
Xiaohui Li (Xidian University, CN)	
Xin Xue (Xidian University, CN)	
Guanghui Yu (ZTE Corporation, CN)	

TA-9: Invited Papers

Session Chair: Jelena Mišić, Ryerson University, Canada

Performance of Simple Cognitive Personal Area Networks with Finite Buffers	488
Jelena Mišić (Ryerson University, CA)	
Vojislav B. Mišić (Ryerson University, CA)	

An Optimal Algorithm for Coverage Hole Healing in Hybrid Sensor Networks	494
Dung T. Nguyen (University of Florida, US)	
Nam P. Nguyen (University of Florida, US)	
My T. Thai (University of Florida, US)	
Abdelsalam Helal (University of Florida, US)	

Packet Discarding Policies for In-Network Data Aggregation in Wireless Sensor Networks	500
Mario Orne Díaz-Anadón (Imperial College London, UK)	
Kin K. Leung (Imperial College, UK)	

Impact of Smart Traffic Handling Scheme on Load Balancing and Interference Margin in Multilayer Network with UMTS900	505
Muhammad Usman Sheikh (Tampere University of Technology, FI)	
Jukka Lempäinen (Tampere University of Technology, FI)	

On the Efficacy of Mobility Modeling for DTN Evaluation: Analysis of Encounter Statistics and Spatio-Temporal Preferences	510
Gautam S. Thakur (University of Florida, US)	
Udayan Kumar (University of Florida, US)	
Ahmed Helmy (University of Florida, US)	
Wei-Jen Hsu (University of Florida, US)	

TA-10: Resource Allocation and Management-II (Wireless Networking Symposium)

Session Chair: Osianoh Glenn, Aliu University of Surrey, United Kingdom
Session Co-Chair: Lyes Khoukhi, University of Technology of Troyes, France

Hybrid MAC based Resource Management Scheme for Kiosk Service in 802.15.3c WPAN	516
Yizhi Xu (Southeast University, CN)	
Pingping Xu (Southeast University, CN)	
Wei Zeng (Southeast University, CN)	
Qian Tian (Southeast University, CN)	

Distributed Resource and Service Management for Large-Scale Dynamic Spectrum Access Systems Through Coordinated Learning	522
M. NoroozOliaee (Oregon State University, US)	
B. Hamdaoui (Oregon State University, US)	

Dynamic Resource Management for OFDMA-Based Femtocells in the Uplink	528
Li-Chuan Tseng (National Chiao Tung University, TW)	
ChingYao Huang (National Chiao Tung University, TW)	
Ahmed Farhan Hanif (Telecom Sud Paris, FR)	
A Distributed Bandwidth Management Scheme for Multi-Hop Wireless Access Networks	534
Riccardo Scopigno (Istituto Superiore Mario Boella, IT)	
Andrea Vesco (Istituto Superiore Mario Boella, IT)	
Utility Optimized Bandwidth Allocation in WiMAX Networks	540
Nidal Nasser (University of Guelph, CA)	
Reid Miller (Environment Canada, CA)	
Amir Esmailpour (University of Toronto, CA)	
Abd-Elhamid M. Taha (Queen's University, CA)	
TA-11: Applications and Data Aggregation (Wireless Sensor Networks Symposium)	
Session Chair: Muhammad Anan, Purdue University Calumet, USA	
Session Co-Chair: Nidal Nasser, University of Guelph, Canada	
A Cluster-Based Data Aggregation Architecture in WSN for Structural Health Monitoring	546
Pin Nie (Aalto University, FI)	
Bo Li (Aalto University, FI)	
Implementing Top-k Query in Duty-Cycled Wireless Sensor Networks	553
Chunsheng Zhu (St. Francis Xavier University, CA)	
Laurence T. Yang (St. Francis Xavier University, CA)	
Lei Shu (Osaka University, JP)	
Takahiro Hara (Osaka University, JP)	
Shojiro Nishio (Osaka University, JP)	
Data Aggregation for Periodic Sensor Networks using Sets Similarity Functions	559
Jacques M. Bahi (University of Franche-Comté, FR)	
Abdallah Makhoul (University of Franche-Comté, FR)	
Maguy Medlej (University of Franche-Comté, FR)	
XLCM: Xross-Layer Communication Module for Service Differentiation in Wireless Sensor Networks	565
Alper K. Demir (Kocaeli University, TR)	
H. Engin Demiray (Kocaeli University, TR)	
Sebnem Baydere (Yeditepe University, TR)	
Wireless Sensor Networks for Medical Care Services	571
Nouha Sghaier (UPEC, University Paris-Est Creteil Val de Marne, FR)	
Abdelhamid Mellouk (UPEC, University Paris-Est Creteil Val de Marne, FR)	
Brice Augustin (UPEC, University Paris-Est Creteil Val de Marne, FR)	
Yacine Amirat (UPEC, University Paris-Est Creteil Val de Marne, FR)	
Jean Marty (Creteil Henri Mondor Hospital, FR)	
Mohamed El Amine Khoussa (UPEC, University Paris-Est Creteil Val de Marne, FR)	
Amine Abid (UPEC, University Paris-Est Creteil Val de Marne, FR)	
Rafik Zitouni (UPEC, University Paris-Est Creteil Val de Marne, FR)	

Energy Efficient Data Dissemination in Wireless Sensor Networks based on Natural Selection 577

Carlos F. Bernal Velazquez (University of Houston, US)
Driss Benhaddou (University of Houston, US)
Manikandan Balakrishnan (New Mexico State University, US)
Muhammad Anan (Purdue University Calumet, US)

An Efficient Artificial Landmark-Based System for Indoor and Outdoor Identification and Localization 583

Mohammad A. Salahuddin (Western Michigan University, US)
Ala Al-Fuqaha (Western Michigan University, US)
Vinay B. Gavirangaswamy (Western Michigan University, US)
Marko Ljucovic (Western Michigan University, US)
Muhammad Anan (Purdue University Calumet, US)

TA-12: Wireless Technologies-II (Wireless Networking Symposium)

Session Chair: Soumaya Cherkaoui, University of Sherbrooke, Canada

Impact of Packet Aggregation on Energy Consumption in Smartphones 589

Rajesh Palit (University of Waterloo, CA)
Kshirasagar Naik (University of Waterloo, CA)
Ajit Singh (University of Waterloo, CA)

Deterministic Access for DSRC/802.11p Vehicular Safety Communication 595

Jihene Rezgui (Université de Sherbrooke, CA)
Soumaya Cherkaoui (Université de Sherbrooke, CA)
Omar Chakroun (Université de Sherbrooke, CA)

Energy-Efficient Fragment Recovery Techniques for Low-Power and Lossy Networks 601

Ahmed Ayadi (Institut Télécom / Télécom Bretagne, FR)
Patrick Maillé (Institut Télécom / Télécom Bretagne, FR)
David Ros (Institut Télécom / Télécom Bretagne, FR)
Laurent Toutain (Institut Télécom / Télécom Bretagne, FR)
Pascal Thubert (Cisco Systems, FR)

Integrating RSS from Unknown Access Points in WLAN Positioning 607

Paolo Addesso (University of Salerno, IT)
Luigi Bruno (University of Salerno, IT)
Rocco Restaino (University of Salerno, IT)

WSN Application in the Harsh Industrial Environment of the Oil Sands 613

Ahmad El Kouche (Queen's University, CA)
Louai Al-Awami (Queen's University, CA)
Hossam Hassanein (Queen's University, CA)
Khaled Obaia (Oil and Energy, CA)

TA-13: Topics in Communication Theory
(Communication and Information Theory Symposium)
Session Chair: Ertan Öztürk, Zonguldak Karaelmas University, Turkey

Two-Piecewise Companding Transform for PAPR Reduction of OFDM Signals	619
Pinlu Yang (Southeast University, CN)	
Aiqun Hu (Southeast University, CN)	
Ultra-Wideband Characterization of Obstructed Propagation	624
Nuruddeen Iya (King Fahd University of Petroleum & Minerals, SA)	
Ali Muqabel (King Fahd University of Petroleum & Minerals, SA)	
Umar Johar (King Fahd University of Petroleum & Minerals, SA)	
Mohamed Adnan Landolsi (King Fahd University of Petroleum & Minerals, SA)	
Sensitivity of Information Capacity of Land Mobile Cellular System to Propagation Loss Parameters at Higher Microwave Frequencies	630
Kwashie A. Anang (University of Greenwich, UK)	
Predrag B. Rapajic (University of Greenwich, UK)	
Titus I. Eneh (University of Greenwich, UK)	
Lawal Bello (University of Greenwich, UK)	
Unified Analysis of Energy Detection of Unknown Signals over Generalized Fading Channels	P IC
A. Annamalai (Prairie View A&M University, US)	
O. Olabiyi (Prairie View A&M University, US)	
S. Alam (Prairie View A&M University, US)	
O. Odejide (Prairie View A&M University, US)	
D. Vaman (Prairie View A&M University, US)	
Novel Frame Structures of TDS-OFDM System for Multi-Service Transmission	642
Keqian Yan (Tsinghua University, CN)	
Fang Yang (Tsinghua University, CN)	
Jian Song (Tsinghua University, CN)	
Signalling-Embedded Training Sequence Design for Block Transmission Systems	P IC
Lifeng He (Tsinghua University, CN)	
Fang Yang (Tsinghua University, CN)	
Zhaocheng Wang (Tsinghua University, CN)	
TA-14: Mobile P2P Networks and Applications (Mobile P2P Workshop)	
Session Chair: Jiann-Liang Chen, National Taiwan University of Science and Technology, TW	
Session Co-Chair: Der-Jiunn Deng, National Changhua University of Education, TW	
Conformance Test and Performance Analysis for IMS Session Initiation	P IC
Guan-Lun Liao (National Ilan University, TW)	
Tin-Yu Wu (Tamkang University, TW)	
Chi-Yuan Chen (National Dong Hwa University, TW)	
Han-Chieh Chao (National Ilan University, TW)	
Wei-Tsong Lee (Tamkang University, TW)	
Mixed P2P-CDN System for Media Streaming in Mobile Environment	657
Shiann-Tsong Sheu (National Central University, TW)	
Chi-Hao Huang (National Central University, TW)	

Mobile Cloud Computing Service based on Heterogeneous Wireless and Mobile P2P Networks	661
Yanuarius Teofilus Larosa (National Taiwan University of Science and Technology, TW)	
Jiann-Liang Chen (National Taiwan University of Science and Technology, TW)	
Der-Jiunn Deng (National Changhua University of Education, TW)	
Han-Chieh Chao (National ILan University,)	
Distributed Verification of Global Multiple Disjoint Paths in Mobile Wireless Networks	P 1C
Mark Griffin (University of Texas at San Antonio, US)	
Turgay Korkmaz (University of Texas at San Antonio, US)	
A Low Cost Transparent Traversal Method for NAT	671
Der-Chen Huang (National Chung Hsing University, TW)	
Ren-Feng Sun (Yare Technologies Inc., TW)	
Der-Jiunn Deng (National Changhua University of Education, TW)	
An AP-Assisted Fast Handoff Scheme using IP Address Passing for Vehicular Ad-Hoc Networks	677
Jen-Wen Ding (National Kaohsiung University of Applied Sciences, TW)	
Hong-Cheng Li (National Kaohsiung University of Applied Sciences, TW)	
Yo-Hsuan Chuang (National Kaohsiung University of Applied Sciences, TW)	
Chun-Kai Chang (National Kaohsiung University of Applied Sciences, TW)	
Der-Chen Huang (National Chung Hsing University, TW)	
IEEE802.11k-Assisted Load Balancing (K-LB) for Peer-to-Peer Content Distribution over Mobile SCTP	683
C. Thorpe (University College Dublin, IE)	
S. Murphy (University College Dublin, IE)	
L. Murphy (University College Dublin, IE)	
 TA-15: Wireless Security (Security Symposium)	
Session Chair: Sattar B. Sadkhan, University of Babylon, Iraq	
Session Co-Chair: Omar A. Al Ibrahim, Southern Methodist University, USA	
Mutual Entity Authentication for LTE	689
Geir M. Køien (University of Agder, NO)	
Secure and QoS-Aware SIP Handover for VoIP Communication in Vehicular Adhoc Networks	695
Bayrem Triki (University of Carthage, TN)	
Slim Rekhis (University of Carthage, TN)	
Noureddine Boudriga (University of Carthage, TN)	
Position Forging Attacks in Vehicular Ad Hoc Networks: Implementation, Impact and Detection	701
Jyoti Grover (Malaviya National Institute of Technology, IN)	
Manoj Singh Gaur (Malaviya National Institute of Technology, IN)	
Vijay Laxmi (Malaviya National Institute of Technology, IN)	
Security Services for eSafety Applications Clusters	707
Jinène Moslah (Ecole Nationale des Sciences de l'Informatique, ENSI, TN)	
Lamia Ben Azzouz (Ecole Nationale des Sciences de l'Informatique, ENSI, TN)	
Secure Quantized Target Tracking in Wireless Sensor Networks	713
Majdi Mansouri (University of Technology of Troyes, FR)	
Lyes Khoukhi (University of Technology of Troyes, FR)	

TA-16: Cooperative Networks (Cooperative and Cognitive Networks Workshop)**Session Chair:** M. Adel Abdel-Hafez, United Arab Emirates University, UAE**Session Co-Chair:** Kamel Tourki, Texas A&M University at Qatar

- PAPR Reduction in Distributed Closed Loop Extended Orthogonal Space Frequency Block Coding with Quantized Two-Bit Group Feedback for Broadband Multi-Node Cooperative Communications** 719
M. Eddaghel (Loughborough University, UK)
J.A. Chambers (Loughborough University, UK)

- Threshold-Based Adaptive Decode-Amplify-Forward Relaying Protocol for Cooperative Systems** 725
Safwen Bouanen (Université du Québec à Montréal, CA)
Hatem Boujema (University of Carthage, TN)
Wessam Ajib (Université du Québec à Montréal, CA)

- Throughput and Delay Analysis of Truncated Cooperative ARQ Protocols using DSTC** 731
Marwen Bouanen (Université du Québec à Montréal, CA)
Wessam Ajib (Université du Québec à Montréal, CA)
Hatem Boujema (University of Carthage, TN)

- Adaptive use of Two Decode-and-Forward Algorithms in Relay-Enhanced Wireless Transmissions** 737
Corina Bota (Technical University of Cluj-Napoca, RO)
Anghel Botos (Technical University of Cluj-Napoca, RO)
Mihaly Varga (Technical University of Cluj-Napoca, RO)
Vasile Bota (Technical University of Cluj Napoca, RO)

- Minimum-Outage Unicast Routing in Cooperative Wireless Networks** 743
Gülizar Duygu Kurt (TOBB University of Economics and Technology, TR)
Tolga Girici (TOBB University of Economics and Technology, TR)

- Performance of Power Allocation Schemes in a Two-Hop AF Relay System with Faded Direct Link** 749
Hamed Rasouli (Ryerson University, CA)
Alagan Anpalagan (Ryerson University, CA)

- Generalized Routing Protocols for Multihop Relay Networks** 754
Fahd Ahmed Khan (King Abdullah University of Science and Technology, SA)
Ferkan Yilmaz (King Abdullah University of Science and Technology, SA)
Mohamed-Slim Alouini (King Abdullah University of Science and Technology, SA)

- Analysis of Cooperative Non-Regenerative Relay Networks with Adaptive Modulation in Generalized Fading Channels** 760
A. Annamalai (Prairie View A&M University, US)
Bhuvan Modi (Prairie View A&M University, US)
R. Chembil Palat (Qualcomm Flarion Technologies, US)

WM-1: Invited Papers**Session Chair:** Mario Gerla, University of California at Los Angeles, USA

- CoRoute: A New Cognitive Anypath Vehicular Routing Protocol** 766
Wooseong Kim (University of California at Los Angeles, US)
Soon Y. Oh (University of California at Los Angeles, US)
Mario Gerla (University of California at Los Angeles, US)
Kevin C. Lee (Cisco Systems, US)

**Coordinated Scheduling Scheme for IEEE 802.11p Wireless Vehicular Networks using
Centralized Scheduling of IEEE 802.16e Wireless Metropolitan Area Networks 772**

Shiann-Tsong Sheu (National Central University, TW)
Ping-Jung Hsieh (National Central University, TW)
Yen-Chieh Cheng (National Central University, TW)
Jung-Shyr Wu (National Central University, TW)

Advanced Diffusion of Classified Data in Vehicular Sensor Networks 777

Nadia Haddadou (University Paris-Est Marne la Vallée, FR)
Abderrezak Rachedi (University Paris-Est Marne-la-Vallée, FR)
Yacine Ghamri-Doudane (Université Paris-Est (LIGM Lab) & ENSIIE, FR)

Using Fuzzy Logic to Calculate the Backoff Interval for Contention-Based Vehicular Networks 783

Tamer Abdelkader (University of Waterloo, CA)
Kshirasagar Naik (University of Waterloo, CA)
Amiya Nayak (University of Ottawa, CA)

WM-2: Modeling and Evaluating Networked CyPhy Systems (CyPhy Workshop)

Session Chair: Abd-Elhamid M. Taha, Queen's University, Canada

Exact Response Time of FlexRay Communication Protocol 789

Lucien Ouedraogo (Iowa State University, US)
Ratnesh Kumar (Iowa State University, US)

Management of PHEV Batteries in the Smart Grid: Towards a Cyber-Physical Power Infrastructure 795

Melike Erol-Kantarci (University of Ottawa, CA)
Hussein T. Mouftah (University of Ottawa, CA)

An Approach to Evaluating Usability of VANET Applications 801

Ciprian Dobre (University Politehnica of Bucharest, RO)
Catalin Fratila (University Politehnica of Bucharest, RO)
Liviu Iftode (Rutgers University, US)

On Robustness of a Class of Cyber-Physical Network Infrastructures 808

Nageswara S.V. Rao (Oak Ridge National Laboratory, US)
Chris Y.T. Ma (Purdue University, US)
David K.Y. Yau (Purdue University, US)

WM-3: MAC and Design Techniques (Wireless Sensor Networks Symposium)

Session Chair: Serbulent Tozlu, Bosch Research, USA

Session Co-Chair: Nidal Nasser, University of Guelph, Canada

A Joint Model for IEEE 802.15.4 Physical and Medium Access Control Layers 814

Mohamed-Haykel Zayani (Institut Telecom, Telecom SudParis, FR)
Vincent Gauthier (Institut Telecom, Telecom SudParis, FR)
Djamal Zeghlache (Institut Telecom, Telecom SudParis, FR)

A Real-Time Traffic Monitoring based on Wireless Sensor Network Technologies	820
Barbara Barbagli (University of Florence, IT)	
Luca Bencini (University of Florence, IT)	
Iacopo Magrini (University of Florence, IT)	
Gianfranco Manes (University of Florence, IT)	
Antonio Manes (Netsens S.r.l., IT)	
Design, Development and Testing of a Wireless Sensor Network for Medical Applications	826
Yu-Lin Tsou (University of Auckland, NZ)	
Stevan Berber (University of Auckland, NZ)	
A Balanced Energy Consumption Sleep Scheduling Algorithm in Wireless Sensor Networks	831
Zhuxiu Yuan (Dalian University of Technology, CN)	
Lei Wang (Dalian University of Technology, CN)	
Lei Shu (Osaka University, JP)	
Takahiro Hara (Osaka University, JP)	
Zhenquan Qin (Dalian University of Technology, CN)	
Versatile Medium Access Control (VMAC) Protocol for Mobile Sensor Networks	836
Vincent Ngo (Ryerson University, CA)	
Alagan Anpalagan (Ryerson University, CA)	
Isaac Woungang (Ryerson University, CA)	
Using Deceptive Packets to Increase Base-Station Anonymity in Wireless Sensor Network	842
Yousef Ebrahimi (University of Maryland Baltimore County, US)	
Mohamed Younis (University of Maryland Baltimore County, US)	
 WM-4: Vehicle-to-Infrastructure Communication (Vehicular Communications Symposium)	
Session Chair:	Soumaya Cherkaoui, Université de Sherbrooke, Canada
Performance Evaluation of IEEE 802.11p Infrastructure-to-Vehicle Tunnel Measurements	848
V. Shivaldova (Vienna University of Technology, AT)	
G. Maier (Vienna University of Technology, AT)	
D. Smely (Kapsch TrafficCom, AT)	
N. Czink (FTW Telecommunications Research Center Vienna, AT)	
A. Alonso (Vienna University of Technology, AT)	
A. Winkelbauer (Vienna University of Technology, AT)	
A. Paier (Vienna University of Technology, AT)	
C.F. Mecklenbräuker (Vienna University of Technology, AT)	
Validation of Vehicular Network Simulation Models with Field-Test Measurements	853
Adelin Miloslavov (University of Virginia, US)	
Malathi Veeraraghavan (University of Virginia, US)	
Brian L. Smith (University of Virginia, US)	
A SNR-Based Admission Control Scheme in WLAN-Based Vehicular Networks	860
Kihun Kim (Korea University, KR)	
Younghyun Kim (Korea University, KR)	
Sangheon Pack (Korea University, KR)	
Nakjung Choi (Alcatel-Lucent, Bell-Labs, KR)	

Performance Evaluation of Adaptive MIMO Switching in Long Term Evolution	866
Muhammad Usman Sheikh (Tampere University of Technology, FI)	
Rafal Jagusz (Tampere University of Technology, FI)	
Jukka Lempiäinen (Tampere University of Technology, FI)	
Data Delivery Guarantees in Congested Vehicular Ad Hoc Networks using Cognitive Networks	871
Ali J. Ghandour (American University of Beirut, LB)	
Kassem Fawaz (American University of Beirut, LB)	
Hassan Artail (American University of Beirut, LB)	
WM-5: Cooperative Communications, Network Coding, Relaying-I (Communication and Information Theory Symposium)	
Session Chair: Oğuz Kucur, Gebze Institute of Technology, Turkey	
Session Co-Chair: Melda A Yuksel, TOBB University of Economics and Technology, Turkey	
Joint MMSE Transceiver Design for Multiuser Non-Regenerative MIMO Relay Downlink Systems	877
Jun Liu (Beijing Jiaotong University, CN)	
Zhi Liu (Beijing Jiaotong University, CN)	
Zhengding Qiu (Beijing Jiaotong University, CN)	
Outage Probability Performance of Transmit Antenna Selection and Generalized Selection Combining in a Dual Hop Amplify-and-Forward Relay Network	883
Ahmet Yilmaz (Gebze Institute of Technology, TR)	
Oğuz Kucur (Gebze Institute of Technology, TR)	
BER-Based Power Allocation for Decode-and-Forward Relaying with M-QAM Constellations	888
Meng Wu (University of Bremen, DE)	
Dirk Wübben (University of Bremen, DE)	
Armin Dekorsy (University of Bremen, DE)	
Minimum Common Outage Probability for the Broadcast Relay Channel	894
Arif Önder Isikman (Chalmers University of Technology, SE)	
Melda Yuksel (TOBB University of Economics and Technology, TR)	
Achieving the Lower Bound of Fading MIMO Relay Channels with Covariance Feedback at the Transmitters	900
Bengi Aygün (Bahçeşehir University, TR)	
Alkan Soysal (Bahçeşehir University, TR)	
Accurate Approximations for the Symbol Error Probability of Cooperative Non-Regenerative Relay Systems over Generalized Fading Channels	906
A. Annamalai (Prairie View A&M University, US)	
O. Olabiyi (Prairie View A&M University, US)	
S. Alam (Prairie View A&M University, US)	
Energy Efficiency Analysis of In-Building MIMO AF Communication	912
Fabien Héliot (University of Surrey, UK)	
Muhammad Ali Imran (University of Surrey, UK)	
Rahim Tafazolli (University of Surrey, UK)	

WM-6: Application Layer, Software, and Signal Processing (General Symposium)

Session Chair: Mehrdad Dianati, University of Surrey, United Kingdom

Performance Study of a Green Light Optimized Speed Advisory (GLOSA) Application using an Integrated Cooperative ITS Simulation Platform	918
Konstantinos Katsaros (University of Surrey, UK)	
Ralf Kernchen (University of Surrey, UK)	
Mehrdad Dianati (University of Surrey, UK)	
David Rieck (Fraunhofer Institute for Open Communication Systems, DE)	
Line Strip Multibeam Spot Diffusing Optical Wireless System Employing Beam Delay and Power Adaptation with Angle Diversity Detection	924
Mohammed T. Alresheedi (University of Leeds, UK)	
Jaafar M.H. Elmirghani (University of Leeds, UK)	
Evaluating Protocol Energy Use and Efficiency through Profiling of Computational Operations	930
B. Mcalleer (University of Surrey, UK)	
S. Georgoulas (University of Surrey, UK)	
K. Moessner (University of Surrey, UK)	
R. Tafazolli (University of Surrey, UK)	
Measurement and Prediction of DTMB Reception Quality in Single Frequency Networks	936
Keqian Yan (Tsinghua University, CN)	
Wenbo Ding (Tsinghua University, CN)	
Liwei Zhang (Radio Institute, Academy of Broadcasting Science of SARFT, CN)	
Fang Yang (Tsinghua University, CN)	
Changyong Pan (Tsinghua University, CN)	
Dynamic Spectrum Allocation Algorithm with Interference Management in Displaced Networks	941
Ghassan Alnawaimi (Centre for Communication Systems Research, UK)	
Kamran Arshad (University of Surrey, UK)	
Klaus Moessner (University of Surrey, UK)	

WM-7: Security Modeling and Optimization (Security Symposium)

Session Chair: Karima Boudaoud, University of Nice Sophia Antipolis, France

Session Co-Chair: Muhammad Anan, Purdue University Calumet, USA

A Reputation Management Model using ID based Cryptosystem in Overlay Networks	947
H. Hakan Kilinc (Gebze Institute of Technology, TR)	
TRACE: A Centralized Trust and Competence-Based Energy-Efficient Routing Scheme for Wireless Sensor Networks	953
Ayman Tajeddine (American University of Beirut, LB)	
Ayman Kayssi (American University of Beirut, LB)	
Ali Chehab (American University of Beirut, LB)	
A Novel 3-D Model for Node and System Trust	959
George C. Hadjichristofi (Frederick University, CY)	
George Kappos (Cyprus University, CY)	
Christoforos N. Hadjicostis (University of Cyprus, CY)	

A Security-Property-Based Approach for Lowering Power Consumption of Secure Mobile Web Access	967
C. Pita (Technical University of Cluj-Napoca, RO) K. Boudaoud (University of Nice Sophia Antipolis, FR) M. Riveill (University of Nice, FR)	
A Virtual Network Topology Security Assessment Process	974
R. Goyette (University of Ottawa, CA) A. Karmouch (University of Ottawa, CA)	
 WM-8: Multihop Wireless Network Testbeds and Experiments (Multihop WNs Workshop)	
Session Chair: Magnus Skjegstad, University of Oslo, Norway	
Session Co-Chair: Marc St-Hilaire, Carleton University, Ottawa, Canada	
Clock Synchronization in WSN: Simulation vs. Implementation	980
Thomas Kunz (Carleton University, CA) Ereth McKnight-MacNeil (Carleton University, CA)	
Comparison of ns2.34's ZigBee/802.15.4 Implementation to Memsic's IRIS Motes	986
Jonathan Edwards (Carleton University, CA) Frédéric Demers (Carleton University, CA) Marc St-Hilaire (Carleton University, CA) Thomas Kunz (Carleton University, CA)	
Implementation of the CCA-MAP Localization Algorithm on a Wireless Sensor Network Testbed	992
Ahmed Al-Odhari (Carleton University, CA) Shafagh Alikhani (Carleton University, CA) Ahmed Dirie (Carleton University, CA) Hamed Omid Beki (Carleton University, CA) Laryssa Sirkko (Carleton University, CA) Marc St-Hilaire (Carleton University, CA) Thomas Kunz (Carleton University, CA)	
An Experimental Evaluation of Web Services Discovery Protocols for Search and Rescue Operations	998
Magnus Skjegstad (University of Oslo, NO) Frank T. Johnsen (Norwegian Defence Research Establishment (FFI), NO) Trude Hafsøe (Norwegian Defence Research Establishment (FFI), NO)	
Facing Challenges in Evaluation of WSN Energy Efficiency with Distributed Energy Measurements	1004
Anton Hergenröder (Karlsruhe Institute of Technology, DE) Jens Horneber (Karlsruhe Institute of Technology, DE)	
Experimental Performance Assessment of WMN Routing Protocols with Mobile Nodes	1010
Massimo Reineri (Politecnico di Torino, IT) Roberto Rubino (Politecnico di Torino, IT) Claudio Casetti (Politecnico di Torino, IT) Carla-Fabiana Chiasseroni (Politecnico di Torino, IT)	

WA-1: Traffic Classification (TRAC Workshop)

Session Chair: Christian Callegari, University of Pisa, Italy

On the use of Sub-Space Clustering & Evidence Accumulation for Traffic Analysis & Classification	1016
---	------

Pedro Casas (LAAS-CNRS / Université de Toulouse, FR)
Johan Mazel (LAAS-CNRS / Université de Toulouse, FR)
Philippe Owezarski (LAAS-CNRS / Université de Toulouse, FR)

Toward Systematic Methods Comparison in Traffic Classification	1022
---	------

Marcin Pietrzyk (Orange Labs, FR)
Lucjan Janowski (AGH University of Science and Technology, PL)
Guillaume Urvoy-Keller (Université de Nice Sophia-Antipolis, FR)

Fine-Grained Behavioral Classification in the Core: The Issue of Flow Sampling	PIC
---	-----

Silvio Valenti (TELECOM ParisTech, FR)
Dario Rossi (TELECOM ParisTech, FR)

Two-Phased Method for Identifying SSH Encrypted Application Flows	1033
--	------

Matti Hirvonen (VTT Technical Research Centre of Finland, FI)
Mirko Sailio (VTT Technical Research Centre of Finland, FI)

WA-2: Wireless Multi-Hop Networks (Wireless Networking Symposium)

Session Chair: Ömer Bulakci, Nokia Siemens Networks Radio Systems, DE

Session Co-Chair: Zhong Fan, Toshiba Research-Europe

Experiments with the MOST Multicast Protocol in a Wireless Multi-Hop Network	1039
---	------

Amina Meraïhi Naimi (INRIA, FR)
Cédric Adjih (INRIA, FR)
Pascale Minet (INRIA, FR)
Thierry Plesse (DGA/MI, FR)

Designing Statistical Multi-Hop Wireless Broadcast Protocols using Confidence Levels from Stochastic Models of Reachability	1045
--	------

Michael Slavik (Florida Atlantic University, US)
Imad Mahgoub (Florida Atlantic University, US)

Optimal Antenna Placement in Multi-Hop Wireless Networks with Heterogeneous Antennas	1051
---	------

Osama Bazan (Ryerson University, CA)
Muhammad Jaseemuddin (Ryerson University, CA)

Supporting QoS Traffic at the Network Layer in Multi-Hop Wireless Mobile Networks	1057
--	------

Gokce Gorbil (Imperial College London, UK)
Ibrahim Korpeoglu (Bilkent University, TR)

A Redundancy-Free Reliable Multicast in Wireless Multi-Hop Relay Networks	1063
--	------

Chia-Yao Chen (National Chiao Tung University, TW)
Wen-Kang Jia (National Chiao Tung University, TW)
Yuan-Rung Yang (National Chiao Tung University, TW)
Yaw-Chung Chen (National Chiao Tung University, TW)

WA-3: Clustering and Routing Protocols (Wireless Sensor Networks Symposium)

Session Chair: Zaher Merhi, Lebanese International University, Lebanon
Session Co-Chair: Tomohiko Taniguchi, Fujitsu Laboratories Limited, Japan

Cluster Discovery in Phase-Shift Beamformed Ad-Hoc and Sensor Networks	1069
Alexandru Mihnea Moucha (Czech Technical University in Prague, CZ) Josef Gattermayer (Czech Technical University, CZ)	
Energy-Aware Routing for Delay-Sensitive Applications Over Wireless Multihop Mesh Networks	1075
Alaa Awad (Cairo University, EG) Omar A. Nasr (Cairo University, EG) Mohamed M. Khairy (Cairo University, EG)	
Energy Efficient Routing Protocol for Zone based Mobile Sensor Networks	1081
Usama Ahmed (National University of Sciences and Technology, PK) Faisal Bashir Hussain (National University of Sciences and Technology, PK)	
Application-Oriented Re-Clustering and Cluster Head Re-Election Scheme for Wireless Sensor Networks	1087
Sameer Farooq (Al-Khawarizmi Institute of Computer Science, PK) Ali Hammad Akbar (Al-Khawarizmi Institute of Computer Science, PK) Asif Raza (Al-Khawarizmi Institute of Computer Science, PK) Abdul Waheed (Al-Khawarizmi Institute of Computer Science, PK) Ki-Hyung Kim (Ajou University, KR)	
Comparison of the Beacon-Less Geographic Routing Protocols in Wireless Sensor Networks	1093
Aytaç Kaya (Sakarya University, TR) Ahmet Zengin (Sakarya University, TR) Hüseyin Ekiz (Süleyman Şah University, TR)	
A Cluster-Based Model for QoS-OLSR Protocol	1099
Hadi Otrok (Khalifa University of Science, Technology & Research, AE) Azzam Mourad (Lebanese American University, LB) Jean-Marc Robert (Ecole de Technologie Supérieure, CA) Nadia Moati (Lebanese American University, LB) Hiba Sanadiki (Lebanese American University, LB)	

WA-4: Realistic Simulation for CyPhy Systems (CyPhy Workshop)

Session Chair: Abd-Elhamid M. Taha, Queen's University, Canada

Methods for Real-Time Simulation of Cyber-Physical Systems: Application to Automotive Domain	1105
Cyril Faure (IFP Energies Nouvelles, FR) Mongi Ben Gaid (IFP Energies Nouvelles, FR) Nicolas Pernet (IFP Energies Nouvelles, FR) Morgan Fremovici (IFP Energies Nouvelles, FR) Grégory Font (IFP Energies Nouvelles, FR) Gilles Corde (IFP Energies Nouvelles, FR)	

Mixed Continuous/Discrete Time Modelling with Exact Time Adjustments	1111
Kenneth C. Rovers (University of Twente, NL)	
Jan Kuper (University of Twente, NL)	
Marcel D. van de Burgwal (University of Twente, NL)	
André B.J. Kokkeler (University of Twente, NL)	
Gerard J.M. Smit (University of Twente, NL)	
Electric Loads as Real-Time Tasks: An Application of Real-Time Physical Systems	1117
Marco L. Della Vedova (University of Pavia, IT)	
Ettore di Palma (University of Pavia, IT)	
Tullio Facchinetto (University of Pavia, IT)	
Controlled-Mobile Sensing Simulator for Indoor Fire Monitoring	1124
Aveek Purohit (Carnegie Mellon University, US)	
Pei Zhang (Carnegie Mellon University, US)	
WA-5: Wireless Networks (Communication and Information Theory Symposium)	
Session Chair:	Ibrahim Hokelek, Tubitak, UEKAE, Turkey
Session Co-Chair:	Hüseyin Arslan, University of Southern Florida, USA
Network Recovery Strategies for Maximization of Network Survivability	1130
Frank Yeong-Sung Lin (National Taiwan University, TW)	
Yu-Shun Wang (National Taiwan University, TW)	
Pei-Yu Chen (National Taiwan University, TW)	
Yao-Yuan Chang (National Taiwan University, TW)	
Capacity of Social Networks in Wireless Environments	1135
Bita Azimdoost (University of California Santa Cruz, US)	
Hamid R. Sadjadpour (University of California Santa Cruz, US)	
J.J. Garcia-Luna-Aceves (University of California Santa Cruz, US)	
A Subchannel-Aware Burst Fragmentation, Packing and Scheduling (BFPS) Algorithm for Downlink Traffic in IEEE 802.16 OFDMA Systems	1141
Hung-Chang Chen (Ching Kuo Institute of Management and Health, TW)	
Kuei-Ping Shih (Tamkang University, TW)	
Chi-Tao Chiang (Tamkang University, TW)	
Cing-Lin Chen (Tamkang University, TW)	
A New Cost Function for Game Theoretic SIR-Based Power Control Algorithms	1147
Ehsan Pasandshanjani (Sharif University of Technology, IR)	
Babak Hossein Khalaj (Sharif University of Technology, IR)	
Mahyar Shirvani Moghaddam (Sharif University of Technology, IR)	
Sum Rate Maximization in the Uplink of Multi-Cell OFDMA Networks	1152
Hina Tabassum (King Abdullah University of Science and Technology, SA)	
Zaher Dawy (American University of Beirut, LB)	
Mohamed Slim Alouini (King Abdullah University of Science and Technology, SA)	
A Mathematical Model for Distributed Channel Access in Cognitive Radio Networks	P 1C
Beycan Kahraman (Istanbul Technical University, TR)	
Feza Buzluca (Istanbul Technical University, TR)	

WA-6: Security, Applications and Mobility Models

(Vehicular Communications Symposium)

Session Chair: Malathi Veeraraghavan, University of Virginia, USA

Verifying SeVeCom using Set-Based Abstraction 1164

Sebastian Mödersheim (Technical University of Denmark (DTU), DK)

Paolo Modesti (Università Ca' Foscari Venezia, IT)

Performance Evaluation of 802.11p Device for Secure Vehicular Communication 1170

Huaqun Guo (Institute for Infocomm Research, SG)

Shen Tat Goh (Institute for Infocomm Research, SG)

Nicholas C.S. Foo (National University of Singapore, SG)

Qian Zhang (National University of Singapore, SG)

Wai-Choong Wong (National University of Singapore, SG)

Continuous within Query in Road Networks 1176

Yuan-Ko Huang (Kao-Yuan University, TW)

Lien-Fa Lin (Kao-Yuan University, TW)

On using Compressive Sensing for Vehicular Traffic Detection 1182

Maurice Sipouo Ngandjon (Université de Sherbrooke, CA)

Soumaya Cherkaoui (Université de Sherbrooke, CA)

A Stable Clustering Algorithm for Efficiency Applications in VANETs 1188

N. Maslekar (Esigelec-Irseem, FR)

M. Boussedjra (Esigelec-Irseem, FR)

J. Mouzna (Esigelec-Irseem, FR)

H. Labiod (ENST-Telecom ParisTech, FR)

Recognizing the Levy-Walk Nature of Vehicle Mobility 1194

Yuan Cao (Tsinghua University, CN)

Yong Li (Tsinghua University, CN)

Jingyi Zhou (Tsinghua University, CN)

Depeng Jin (Tsinghua University, CN)

Li Su (Tsinghua University, CN)

Lieguang Zeng (Tsinghua University, CN)

WA-7: Radio Resource Management and MAC (General Symposium)

Session Chair: Mehrdad Dianati, University of Surrey, United Kingdom

Improving Reliability of Emergency Message Dissemination in VANETs 1200

Moahammad M. Taghipour (University of Surrey, UK)

Chong Han (University of Surrey, UK)

Mehrdad Dianati (University of Surrey, UK)

A Simple and Reliable Credit-Balanced Incentive Scheme for Wireless Ad-Hoc Networks 1206

Luyang Zhang (Toshiba Research Europe Limited, UK)

Mahesh Sooriyabandara (Toshiba Research Europe Limited, UK)

Zhong Fan (Toshiba Research Europe Limited, UK)

UWB Acquisition based on Combining Multiple Correlator Outputs	1212
Junhwan Kim (Sungkyunkwan University, KR)	
Dahae Chong (Sungkyunkwan University, KR)	
Youngyoon Lee (Sungkyunkwan University, KR)	
Seokho Yoon (Sungkyunkwan University, KR)	
A Local Search Heuristic for the Design Problem of 3G UMTS All-IP Release 4 Networks with Realistic Traffic	1216
Mohammad Reza Pasandideh (Carleton University, CA)	
Marc St-Hilaire (Carleton University, CA)	
A Downlink Power Control Scheme for Interference Avoidance in Femtocells	1222
Talha Zahir (University of Surrey, UK)	
Kamran Arshad (University of Surrey, UK)	
Youngwook Ko (University of Surrey, UK)	
Klaus Moessner (University of Surrey, UK)	
Code Adaptation Control Algorithm for High Energy-Efficiency Wireless Sensor Networks	1227
Qiang Lin (Fujitsu R&D Center Co., Ltd., CN)	
Jun Tian (Fujitsu R&D Center Co., Ltd., CN)	
Optimization of Throughput and Autonomous Sensing in Random Access Cognitive Radio Networks	1232
Jin Yuan (University of Texas at Dallas, US)	
Murat Torlak (University of Texas at Dallas, US)	
 WA-8: Applications	
Session Chair: Vojislav B. Mišić, Ryerson University, Canada	
Video Communications Over IEEE 802.11p using Single Channel Devices	1238
Serkan Öztürk (Erciyes University, TR)	
Jelena Mišić (Ryerson University, CA)	
Vojislav B. Mišić (Ryerson University, CA)	
Performance Analysis of Optimized VANET Protocols in Real World Tests	1244
Jamal Toutouh (University of Málaga, ES)	
Enrique Alba (University of Málaga, ES)	
Game Theory and Iterated Voronoi Diagrams for Self-Organized Wireless Sensor Networks	1250
Manel Abdelkader (University of Carthage, TN)	
Mohamed Hamdi (Carthage University, TN)	
Noureddine Boudriga (University of Carthage, TN)	
An Experimental Assessment of Transmit Opportunities in Packet based Networks	1256
Nikhil Kundargi (University of Texas at Austin, US)	
Ahmed Tewfik (University of Texas at Austin, US)	
Distributed Resource Allocation in Small Cellular Networks – Test-Bed Experiments and Results	1262
Parag Kulkarni (Toshiba Research Europe Ltd., UK)	
Sedat Gormus (Toshiba Research Europe Ltd., UK)	
Woon Hau Chin (Toshiba Research Europe Ltd., UK)	
Russell J. Haines (Toshiba Research Europe Ltd., UK)	

On the Detection of Intelligent Mobile Targets in a Mobile Sensor Network	1268
Mohammad J. Abdel Rahman (University of Arizona, US)	
Ahmad I. Abu-El-Haija (Jordan University of Science and Technology, JO)	
Hazem M. Al-Najjar (Jordan University of Science and Technology, JO)	
Smart Home Networking: Combining Wireless and Powerline Networking	1276
Cheng Jin (Carleton University, CA)	
Thomas Kunz (Carleton University, CA)	
 WA-9: Network Traffic Analysis and Security (TRAC Workshop)	
Session Chair:	Saverio Niccolini, NEC Lab, Germany
A Tale of Two Outages: A Study of the Skype Network in Distress	1282
Brian Trammell (ETH Zurich, CH)	
Dominik Schatzmann (ETH Zurich, CH)	
Hierarchical Clustering and Visualization of Aggregate Cyber Data	1287
Robert M. Patton (Oak Ridge National Laboratory, US)	
Justin M. Beaver (Oak Ridge National Laboratory, US)	
Chad A. Steed (Oak Ridge National Laboratory, US)	
Thomas E. Potok (Oak Ridge National Laboratory, US)	
Jim N. Treadwell (Oak Ridge National Laboratory, US)	
Evaluation and Design of Cache Replacement Policies under Flooding Attacks	1292
Martin Zadnik (Brno University of Technology, CZ)	
Marco Canini (EPFL, CH)	
Detecting Heavy Change in the Heavy Hitter Distribution of Network Traffic	1298
Christian Callegari (University of Pisa, IT)	
Stefano Giordano (University of Pisa, IT)	
Michele Pagano (University of Pisa, IT)	
Teresa Pepe (University of Pisa, IT)	
Optimizing Flow Sampling for Network Anomaly Detection	1304
Karel Bartos (Czech Technical University, CZ)	
Martin Rehak (Czech Technical University, CZ)	
Vojtech Krmicek (Masaryk University, CZ)	
Noise Tolerant Symbolic Learning of Markov Models of Tunneled Protocols	1310
Harakrishnan Bhanu (Clemson University, US)	
Jason Schwier (Clemson University, US)	
Ryan Craven (Clemson University, US)	
Ilker Ozcelik (Clemson University, US)	
Christopher Griffin (Pennsylvania State University, US)	
Richard R. Brooks (Clemson University, US)	

WA-10: Energy Aware Solutions

(For Data Mining and Wireless/Mobile Applications Workshop)

Session Chair: Hazem Hajj, American University of Beirut, Lebanon

Session Co-Chair: Wassim El Hajj, American University of Beirut, Lebanon

Managing Communications Complexity in the Smart Grid using Data Aggregation P IC

F. Bouhafs (Liverpool John Moores University, UK)
M. Merabti (Liverpool John Moores University, UK)

Optimal WiMAX Frame Packing for Minimum Energy Consumption 1321

Nadine Abbas (American University of Beirut, LB)
Hazem Hajj (American University of Beirut, LB)
Ali Yassine (American University of Beirut, LB)

Survive: A Process Lifetime Reservation System with Fine-Grained Energy Monitoring for Multifunctional Mobile Nodes 1327

Masato Mori (Keio University, JP)
Michio Honda (Keio University, JP)
Jin Nakazawa (Keio University, JP)
Hideyuki Tokuda (Keio University, JP)

A Design Methodology for Energy Aware Neural Networks 1333

Mehiar Dabbagh (American University of Beirut, LB)
Hazem Hajj (American University of Beirut, LB)
Ali Chehab (American University of Beirut, LB)
Wassim El-Hajj (American University of Beirut, LB)
Ayman Kayssi (American University of Beirut, LB)
Mohammad Mansour (American University of Beirut, LB)

WA-11: Performance Evaluation and Test-beds

(Wireless Sensor Networks Symposium)

Session Chair: Lei Shu, Osaka University, Japan

Session Co-Chair: Tomohiko Taniguchi, Fujitsu Laboratories Ltd., Japan

Experimental Evaluation of Wideband Signals-Based Wireless Sensor Networks for Industrial Environments P IC

Abdullah Kadri (QU Wireless Innovations Center, QA)
Jin Jiang (The University of Western Ontario, CA)
Raveendra K. Rao (The University of Western Ontario, CA)

Wireless Sensor Network Simulators Relevance Compared to a Real IEEE 802.15.4 Testbed P IC

Stéphane Lohier (University Paris-Est Marne-la-Vallée, FR)
Abderrezak Rachedi (University Paris-Est Marne-la-Vallée, FR)
Erwan Livolant (University Paris-Est Marne-la-Vallée, FR)
Ismail Salhi (University Paris-Est Marne-la-Vallée, FR)

Performance Evaluation of IPv6 Label Switched Paths for Wireless Sensor Networks 1353

Stefan Kraxberger (Graz University of Technology, AT)
Christoph Gratl (Graz University of Technology, AT)
Udo Payer (Graz University of Technology, AT)

Implementation and Evaluation of a TCP Header Compression for 6LoWPAN 1359

Ahmed Ayadi (Institut Télécom / Télécom Bretagne, FR)
Patrick Maillé (Institut Télécom / Télécom Bretagne, FR)
David Ros (Institut Télécom / Télécom Bretagne, FR)
Laurent Toutain (Institut Télécom / Télécom Bretagne, FR)
Tiancong Zheng (Institut Télécom / Télécom Bretagne, FR)

Gossip-Based Density Estimation in Dynamic Heterogeneous Sensor Networks 1365

Hadi Tabatabaei Malazi (University of Isfahan, IR)
Kamran Zamanifar (University of Isfahan, IR)
Andrei Pruteanu (Delft University of Technology, NL)
Stefan Dulman (Delft University of Technology, NL)

Performance Evaluation of Deploying Wireless Sensor Networks in a Highly Dynamic WLAN and a Highly Populated Indoor Environment 1371

Farag M. Sallabi (United Arab Emirates University, AE)
Ali O. Abu Odeh (United Arab Emirates University, AE)
Khaled Shuaib (United Arab Emirates University, AE)

WA-12: Optimization (Wireless Networking Symposium)

Session Chair: Osman Yilmaz, Aalto University, Finland

TDPBU: Route Optimization for Coexisting Mobility Managements in IPv6 Networks 1377

Wen-Kang Jia (National Chiao Tung University, TW)
Chia-Yao Chen (National Chiao Tung University, TW)
Yuan-Rung Yang (National Chiao Tung University, TW)
Yaw-Chung Chen (National Chiao Tung University, TW)

Optimization of Vertical Handover Decision Processes for Fourth Generation Heterogeneous Wireless Networks 1383

Xiaohuan Yan (Monash University, AU)
Y. Ahmet Şekercioğlu (Monash University, AU)
Sathyia Narayanan (California State University, Monterey Bay, US)

Optimization of Routing and Gateway Allocation in Aeronautical Ad Hoc Networks using Genetic Algorithms 1391

Felix Hoffmann (German Aerospace Center (DLR), DE)
Daniel Medina (German Aerospace Center (DLR), DE)
Adam Wolisz (Technical University of Berlin, DE)

Self-Optimization of Random Access Channel in 3GPP LTE 1397

Osman N.C. Yilmaz (Aalto University, FI)
Jyri Hämäläinen (Aalto University, FI)
Seppo Hämäläinen (Nokia Siemens Networks, FI)

**WA-13: Channel Estimation, Equalization, Synchronization
(Communication and Information Theory Symposium)**

Session Chair: Hakan A. Cirpan, Istanbul Technical University, Turkey

A Symbol Timing Synchronization Method for OFDM Systems using an Estimated Time Delay Spread	1402
Kenko Ota (Tokyo University of Science, SUWA, JP) Takuma Yui (Tokyo University of Science, SUWA, JP) Yukihiro Hirata (Tokyo University of Science, SUWA, JP) Hideaki Matsue (Tokyo University of Science, SUWA, JP)	
Adaptive MMSE Multiuser Detection for MIMO OFDM Over Turbo-Equalization for Single-Carrier Transmission Wireless Channel	1408
Titus Eneh (University of Greenwich, UK) Predrag Rapajic (University of Greenwich, UK) Grace Oletu (University of Greenwich, UK) Kwashie Anang (University of Greenwich, UK) Lawal Bello (University of Greenwich, UK)	
Bayesian-Based Iterative Blind Joint Data Detection, Code Delay and Channel Estimation for DS-CDMA Systems in Multipath Environments	1413
Erdoğan Aydin (Maltepe University, TR) Hakan Ali Cirpan (Istanbul Technical University, TR)	
A Non-Iterative Channel Estimation and Equalization Method for TDS-OFDM Systems	P IC
Muhammad S. Sohail (King Fahd University of Petroleum & Minerals, SA) Ahmed A. Quadeer (King Fahd University of Petroleum & Minerals, SA)	
Performance of SFBC-OFDM System with Pilot Aided Channel Estimation	1423
Fabien Delestre (University of Hertfordshire, UK) Yichuang Sun (University of Hertfordshire, UK)	
Cost Effective Estimation and Equalization of Frequency Selective Channels for Transmit Diversity ...	1429
Adem Coskun (University of Westminster, UK) Izzet Kale (University of Westminster, UK)	
Channel Estimation Technique for MIMO-Constant Envelope Modulation	1433
Ehab Mahmoud Mohamed (South Valley University, EG) Osamu Muta (Kyushu University, JP) Hiroshi Furukawa (Kyushu University, JP)	
Low Complexity Channel Estimation for 3GPP LTE Downlink MIMO OFDM Systems	1441
Ömer Çetin (Istanbul University, TR) Bahattin Karakaya (Istanbul University, TR) Hakan Ali Çirpan (Istanbul Technical University, TR)	

WA-14: Multimedia over P2P and Cloud Computing System (Multimedia over Wireless Symposium)

Session Chair: S. Naik, University of Waterloo, Canada

Peer to Peer Content Sharing on Ad Hoc Networks of Smartphones 1445

Piotr K. Tysowski (University of Waterloo, CA)
Pengxiang Zhao (University of Waterloo, CA)
Kshirasagar Naik (University of Waterloo, CA)

Distributed Multisource Parallel Coadjutant Transmission Scheme based on P2P Lookup Protocol in DTN 1451

Di Wu (Dalian University of Technology, CN)
Juanjuan Li (Dalian University of Technology, CN)
Chenxi Hou (Dalian University of Technology, CN)
Dongxia Zhang (Dalian University of Technology, CN)
Jiangchuan Liu (Simon Fraser University, CA)

Alleviating Request Collisions in Peer-to-Peer Live Streaming Systems to Improve System Performance 1457

Yishuai Chen (Graduate University of the Chinese Academy of Sciences, CN)
Baoxian Zhang (Graduate University of the Chinese Academy of Sciences, CN)
Qi Liu (Beijing Jiaotong University, CN)
Changjia Chen (Beijing Jiaotong University, CN)
Zhangbing Zhou (Institute TELECOM Paris, FR)

IMS Cloud Computing Architecture for High-Quality Multimedia Applications P 1C

Jiann-Liang Chen (National Taiwan University of Science and Technology, TW)
Szu-Lin Wu (National Dong Hwa University, TW)
Yanuarious Teofilus Larosa (National Taiwan University of Science and Technology, TW)
Pei-Jia Yang (National Taiwan University of Science and Technology, TW)
Yang-Fang Li (National Taiwan University of Science and Technology, TW)

An Efficient Path-Migration Mechanism for IP Multimedia Subsystem 1469

Shih-Wen Hsu (National Dong Hwa University, TW)
Kai-Di Chang (National Taiwan University of Science and Technology, TW)
Chi-Yuan Chen (National Dong Hwa University, TW)
Han-Chieh Chao (National Ilan University, TW)
Jiann-Liang Chen (National Taiwan University of Science and Technology, TW)

A DHT-Based Hierarchical Overlay for Peer-to-Peer MMOGs over MANETs 1475

Anthony Yu (University of British Columbia, CA)
Son T. Vuong (University of British Columbia, CA)

WA-15: Medium Access and Physical Layer (Vehicular Communications Symposium)

Session Chair: Kemal Tepe, University of Windsor, Canada

Contention Window Analysis for Beacons in VANETs 1481

René Reinders (University of Twente, NL)
Martijn van Eenennaam (University of Twente, NL)
Georgios Karagiannis (University of Twente, NL)
Geert Heijenk (University of Twente, NL)

Delay and Interference Comparison of CSMA and Self-Organizing TDMA when used in VANETs 1488
Katrín Sjöberg (Halmstad University, SE)
Elisabeth Uhlemann (Halmstad University, SE)
Erik G. Ström (Chalmers University of Technology, SE)

Analysis of PR-ALOHA Protocol for Inter Vehicle Communications 1494
Nesreen Alsbou (University of Oklahoma, US)
Hazem Refai (University of Oklahoma, US)

Cluster-Based Slot Allocations for Inter-Vehicle Communications in VANETs 1500
Tsang-Ling Sheu (National Sun Yat-Sen University, TW)
Yu-Hung Lin (National Sun Yat-Sen University, TW)

Impact of Urban Radio Obstructions on the Effectiveness of Moving WAVE Providers 1506
Claudia Campolo (Università Mediterranea di Reggio Calabria, IT)
Hector Agustin Cozzetti (Istituto Superiore Mario Boella, IT)
Antonella Molinaro (Università Mediterranea di Reggio Calabria, IT)
Riccardo Scopigno (Istituto Superiore Mario Boella, IT)

Visible Light Communication for Intelligent Transportation in Road Safety Application 1513
Navin Kumar (University of Aveiro, PT)
Domingos Terra (University of Aveiro, PT)
Nuno Lourenço (University of Aveiro, PT)
Luis Nero Alves (University of Aveiro, PT)
Rui L. Aguiar (University of Aveiro, PT)

WA-16: Cooperative and Fading Systems

Session Chair: Pingyi Fan, Tsinghua University, China

The Deterministic Time-Linearity of Service Provided by Rayleigh Fading Channels 1519
Yunquan Dong (Tsinghua University, CN)
Qing Wang (Tsinghua University, CN)
Pingyi Fan (Tsinghua University, CN)
Khaled Ben Letaief (Hong Kong University of Science and Technology, HK)

Cooperative Multi-Source-Multi-Destination Transmission System with Relay Selection 1524
Chen Zhi (Tsinghua University, CN)
Pingyi Fan (Tsinghua University, CN)
K.B. Letaief (Hong Kong University of Science and Technology, HK)

Capacity of Distributed MIMO with Finite Size 1529
Hamid R. Sadeghpour (University of California, Santa Cruz, US)
J.J. Garcia-Luna-Aceves (University of California at Santa Cruz, US)
Mingyue Ji (University of California at Santa Cruz, US)

Channel Characteristics of the Generalized Alpha-Mu Multipath Fading Model 1535
Amer M. Magableh (Jordan University of Science and Technology, JO)
Mustafa M. Matalgah (University of Mississippi, US)

Performance of N*Nakagami Cascaded Fading Channels in Dual Selection Combining Diversity 1539
P.M. Shankar (Drexel University, US)

Cross-Layer Rateless Coding over Wireless Relay Networks 1545

Mahyar Shirvani Moghaddam (Sharif University of Technology, IR)

Babak Hossein Khalaj (Sharif University of Technology, IR)

Ehsan Pasandshanjani (Sharif University of Technology, IR)

ThM-1: Invited Papers**Session Chair:** Fumiyuki Adachi, Tohoku University, Japan**Gigabit Distributed Antenna Network and Its Related Wireless Techniques** 1550

Fumiyuki Adachi (Tohoku University, JP)

Kazuki Takeda (Tohoku University, JP)

Tetsuya Yamamoto (Tohoku University, JP)

Ryuuke Matsukawa (Tohoku University, JP)

A Game-Theoretic Approach for Relay Assignment over Distributed Wireless Networks 1557

Xuedong Liang (University of British Columbia, CA)

Min Chen (Seoul National University, KR)

Victor C.M. Leung (University of British Columbia, CA)

Multiple-Frame Precoding Scheme for BICM over AF Relay Channels 1563

Leonardo Jiménez Rodríguez (McGill University, CA)

Nghi H. Tran (McGill University, CA)

Tho Le-Ngoc (McGill University, CA)

A Simplistic Approach to Model Capacity Estimation and Bandwidth**Utilization of IEEE 802.11e WLAN** 1569

Sk Kajal Arefin Imon (University of Texas at Arlington, US)

Sajib Datta (University of Texas at Arlington, US)

Sajal K. Das (University of Texas at Arlington, US)

ThM-2: Network Structure, Traffic and Performance Analysis (TRAC Workshop)**Session Chair:** Sandrine Vaton, Telecom Bretagne, France**Real-Time Anomalies Detection and Analysis of Network Structure, with Application to the Autonomous System Network** 1575

Giorgio Ausiello (Sapienza University of Rome, IT)

Donatella Firmani (Sapienza University of Rome, IT)

Luigi Laura (Sapienza University of Rome, IT)

An Evolutionary Algorithm for Network Clustering through Traffic Matrices 1580

Sancho Salcedo-Sanz (Universidad de Alcalá, ES)

Maurizio Naldi (Università di Roma "Tor Vergata", IT)

Leopoldo Carro-Calvo (Universidad de Alcalá, ES)

Luigi Laura ("Sapienza" Università di Roma, IT)

Antonio Portilla-Figueras (Universidad de Alcalá, ES)

Giuseppe F. Italiano (Università di Roma "Tor Vergata", IT)

Network Performance Evaluation based on Flow Data 1585

Felix Strohmeier (Salzburg Research Forschungsgesellschaft m.b.H., AT)

Peter Dorfinger (Salzburg Research Forschungsgesellschaft mbH, AT)

Brian Trammell (ETH Zurich, CH)

Temporal Resolution Adaptation in Real-Time Bitrate Estimation from Packed Sampled Traffic 1590

Rosa Vilardi (Politecnico di Bari, IT)
Luigi Alfredo Grieco (Politecnico di Bari, IT)
Gennaro Boggia (Politecnico di Bari, IT)
Chadi Barakat (INRIA Sophia Antipolis, FR)

Evaluation of Throughput Performance of Traffic Shapers 1596

Tahir Nawaz Minhas (Blekinge Institute of Technology, SE)
Markus Fiedler (Blekinge Institute of Technology, SE)
Junaid Shaikh (Blekinge Institute of Technology, SE)
Patrik Arlos (Blekinge Institute of Technology, SE)

Traffic Characterization Study on EPON Upstream Channel 1601

Özgür Can Turna (Istanbul University, TR)
M. Ali Aydin (Istanbul University, TR)
Tülin Atmaca (Telecom and Management SudParis, FR)
A. Halim Zaim (Istanbul Commerce University, TR)
Tuan-Dung Nguyen (Telecom and Management Sud Paris, FR)

ThM-3: Performance Analysis (Wireless Sensor Networks Symposium)

Session Chair: Wuyi Yue, Konan University, Japan

Session Co-Chair: Tomohiko Taniguchi, Fujitsu Laboratories Ltd., Japan

Analysis of Robustness in Heterogeneous Ad Hoc Networks P 1C

Amadou Baba Bagayoko (University of Toulouse, FR)
Béatrice Paillassa (University of Toulouse, FR)

Performance Analysis of Multi-Hop with Sleep/Wakeup Protocol on Wireless Sensor Networks 1613

Shunfu Jin (Yanshan University, CN)
Wuyi Yue (Konan University, JP)

Interference Analysis and Outage Performance of Finite Multi-Antenna Ad Hoc Networks 1618

Jiayi Chen (City University of Hong Kong, HK)
Q.T. Zhang (City University of Hong Kong, HK)
Minhua Ding (City University of Hong Kong, CN)

Capacity Calculation and Control in Wireless Sensor Network with Cooperative Decode and Forward Communications 1624

Qian Tao (University of Auckland, NZ)
Stevan Berber (University of Auckland, NZ)
Ying-Ying Cheng (University of Auckland, NZ)

Reliability Analysis of Wireless Sensor Networks for Forest Fire Detection 1630

Al-Abbass Y. Al-Habashneh (Memorial University of Newfoundland, CA)
Mohamed H. Ahmed (Memorial University of Newfoundland, CA)
Tahir Husain (Memorial University of Newfoundland, CA)

Outage Probability Analysis of Wireless Sensor Networks in the Presence of Channel Fading and Spatial Correlation 1636

Tamim Al-Murad (King Abdullah University of Science and Technology, SA)
Mohamed-Slim Alouini (King Abdullah University of Science and Technology, SA)

PGRP: A Probabilistic Geocast Routing Protocol for Virtual Coordinate-Based Wireless Sensor Networks 1642

Sheng-Shih Wang (Minghsin University of Science and Technology, TW)
Chuan-Ming Liu (National Taipei University of Technology, TW)

ThM-4: Languages and Environments for CyPhy Modeling and Design (CyPhy Workshop)

Session Chair: Walid Taha, Halmstad University, Norway

Modelica – A Cyber-Physical Modeling Language and the OpenModelica Environment 1648

Peter Fritzson (Linköping University, SE)

A Model-Based Methodology of Programming Cyber-Physical Systems 1654

Sundeep Chandhoke (National Instruments, US)
Tim Hayles (National Instruments, US)
Jeff Kodosky (National Instruments, US)
Guoqiang Wang (National Instruments, US)

Correct-by-Construction Code Generation from Hybrid Automata Specification 1660

Davide Bresolin (University of Verona, IT)
Luigi Di Guglielmo (University of Verona, IT)
Luca Geretti (University of Verona, IT)
Tiziano Villa (University of Verona, IT)

A Model-Based Design Methodology for Cyber-Physical Systems 1666

Jeff C. Jensen (National Instruments, US)
Danica H. Chang (University of California, Berkeley, US)
Edward A. Lee (University of California, Berkeley, US)

Cyber-Physical Security using System-Level PUFs 1672

Omar Al Ibrahim (Southern Methodist University, US)
Suku Nair (Southern Methodist University, US)

ThM-5: Cooperative Communications, Network Coding, Relying II (Communication and Information Theory)

Session Chair: Murat Uysal, University of Waterloo, Canada

Auction-Based Power Allocation for Many-to-One Cooperative Wireless Networks 1677

Mohammed W. Baidas (Virginia Tech, US)
Allen B. MacKenzie (Virginia Tech, US)

Full Rate Full Diversity Cooperative Extended Balanced Space-Time Block Coding for Wireless Multicasting 1683

Ali Ekşim (TUBITAK-BILGEM, TR)
Mehmet E. Çelebi (Istanbul Technical University, TR)

Optimal Dual-Cast Beamforming for Network Coding-Based Two-Way Relay Transmission	1689
Zhengfeng Xu (Tsinghua University, CN) Hong-Chuan Yang (University of Victoria, CA) Pingyi Fan (Tsinghua University, CN) Su Yi (NEC Labs, CN) Ming Lei (NEC Labs, CN)	
Orthogonal Space Time Block Coding for Two-Way Wireless Relay Networks Under Imperfect Synchronization	1694
U.N. Mannai (Loughborough University, UK) F.M. Abdurahman (Loughborough University, UK) A.M. Elazreg (Loughborough University, UK) J.A. Chambers (Loughborough University, UK)	
Performance Analysis of Cooperative-Diversity Wireless Systems with Adaptive Modulation and Imperfect Channel State Information	1698
Hao Chen (Verafin Inc., CA) Mohamed H. Ahmed (Memorial University of Newfoundland, CA) Ramachandran Venkatesan (Memorial University of Newfoundland, CA)	
Distributed Quasi-Orthogonal Type Space-Time Block Coding with Maximum Distance Property for Two-Way Wireless Relay Networks	1704
M.A. Manna (Loughborough University, UK) F. Abdurahman (Loughborough University, UK) J.A. Chambers (Loughborough University, UK)	
Improved Topology Control for Multiradio Multichannel Wireless Mesh Networks with Directional Antennas	1708
Nasrin Sadeghianpour (Multimedia University, MY) Teong Chee Chuah (Multimedia University, MY) Su Wei Tan (Multimedia University, MY)	
 ThM-6: Optimization for Multimedia Transmission (Multimedia over Wireless Symposium)	
Session Chair:	D.J. Deng, National Changhua University of Education, Taiwan
QoS-Aware Heterogeneous Networking using Distributed Multiagent Schemes	1713
Jiann-Liang Chen (National Taiwan University of Science and Technology, TW) Yanuarius Teofilus Larosa (National Taiwan University of Science and Technology, TW) Der-Jiunn Deng (National Changhua University of Education, TW) Pei-Jia Yang (National Taiwan University of Science and Technology, TW) Yi-Wei Ma (National Cheng Kung University, TW)	
ROI-Based Error Resilient Coding of H.264 for Conversational Video Communication	1719
Fan Li (Xi'an Jiaotong University, CN) Yixin Gao (Johns Hopkins University, US)	
X-EDCA: A Cross-Layer MAC-Centric Mechanism for Efficient Multimedia Transmission in Congested IEEE 802.11e Infrastructure Networks	1724
Anastasios Politis (University of Macedonia, GR) Ioannis Mavridis (University of Macedonia, GR) Athanasios Manitsaris (University of Macedonia, GR) Constantinos Hilas (TEI of Serres, GR)	

Adaptive Statistical Sampling of VOIP Traffic in WLAN and Wired Networks using Fuzzy Inference System 1731

A. Dogman (Sheffield Hallam University, UK)
R. Saatchi (Sheffield Hallam University, UK)
S Al-Khayatt (Sheffield Hallam University, UK)
H. Nwaizu (Sheffield Hallam University, UK)

Threshold Optimization for SSB Access Control 1737

Yanuarious Teofilus Larosa (National Taiwan University of Science and Technology, TW)
Jiann-Liang Chen (National Taiwan University of Science and Technology, TW)
Der-Jiunn Deng (National Changhua University of Education, TW)

ThM-7: Multi-Hop and Broadcast Communication (Vehicular Communications Symposium)

Session Chair: Rui L. Aguiar, University of Aveiro, Portugal

Applying Machine Learning to the Design of Multi-Hop Broadcast Protocols for VANET 1742

Michael Slavik (Florida Atlantic University, US)
Imad Mahgoub (Florida Atlantic University, US)

A Reliable Routing Protocol for VANET Communications 1748

Xi Yu (National University of Singapore, SG)
Huaqun Guo (Institute for Infocomm Research, SG)
Wai-Choong Wong (National University of Singapore, SG)

Message Delivery Delay Analysis in VANETs with a Bidirectional Traffic Model 1754

Yazhi Liu (Beijing University of Posts and Telecommunications, CN)
Jianwei Niu (Beihang University, CN)
Guangzhi Qu (Oakland University, US)
Qingsong Cai (Beijing Technology and Business University, CN)
Jian Ma (Beijing University of Posts and Telecommunications, CN)

SERVUS: Reliable Low-Cost and Disconnection-Aware Broadcasting in VANETs 1760

Raul A. Gorcitz (UPMC Sorbonne Universités, FR)
Prométhée Spathis (UPMC Sorbonne Universités, FR)
Marcelo Dias de Amorim (UPMC Sorbonne Universités, FR)
Ryuji Wakikawa (Toyota InfoTechnology Center, US)
Serge Fdida (UPMC Sorbonne Universités, FR)

Broadcast Control-Based Routing Protocol for Internet Access in VANETS 1766

Amadou Adama Ba (University of Montreal, CA)
Abdelhakim Hafid (University of Montreal, CA)
Jawad Drissi (Cameron University, US)

A Quantitative Analysis of Improved DSRC System using Repetition based Broadcast Safety Messaging with Hidden Terminals 1772

Nabih Jaber (University of Windsor, CA)
Kazi Atiqur Rahman (University of Windsor, CA)
Esam Abdel-Raheem (University of Windsor, CA)
Kemal E. Tepe (University of Windsor, CA)

ThA-1: Network Traffic Analysis and Classification: from Theory to Practice (TRAC Workshop)

Session Chair: Brian Trammell, ETH Zurich, Switzerland

On-Line SVM Traffic Classification 1778

Alice Este (Università degli Studi di Brescia, IT)
Francesco Gringoli (Università degli Studi di Brescia, IT)
Luca Salgarelli (Università degli Studi di Brescia, IT)

On the Processing Time for Detection of Skype Traffic 1784

P.M. Santiago Del Río (Universidad Autónoma de Madrid, ES)
J. Ramos (Universidad Autónoma de Madrid, ES)
J.L. García-Dorado (Universidad Autónoma de Madrid, ES)
J. Aracil (Universidad Autónoma de Madrid, ES)
A. Cuadra-Sánchez (Indra Sistemas, S.A., ES)
M. Cutanda-Rodríguez (Indra Sistemas, S.A., ES)

GBSA: A Group based Search Algorithm for Packet Classification 1789

Omar Ahmed (University of Guelph, CA)
Shawki Areibi (University of Guelph, CA)

Detecting P2P Traffic from the P2P Flow Graph 1795

Jonghyun Kim (University of Delaware, US)
Khushboo Shah (University of Delaware, US)
Stephan Bohacek (University of Delaware, US)

Practical Network Traffic Analysis in P2P Environment 1801

Tao Ban (National Institute of Information and Communications Technology, JP)
Shanqing Guo (Shandong University, CN)
Zonghua Zhang (Institut TELECOM, FR)
Ruo Ando (National Institute of Information and Communications Technolgy, JP)
Youki Kadobayashi (National Institute of Information and Communications Technolgy, JP)

Disambiguating HTTP: Classifying Web Applications 1808

Rennie Archibald (University of California Davis, US)
Yali Liu (AT&T Labs Inc., US)
Cherita Corbett (Johns Hopkins University, US)
Dipak Ghosal (University of California Davis, US)

ThA-2: Cooperative Networks (Wireless Networking Symposium)

Session Chair: D. Tsang, Hong Kong University of Science and Technology, Hong Kong

Session Co-Chair: Abderrezak Rachedi, University Paris-Est, Champs-sur-marne, France

Cooperative Fingerprint-Based Indoor Localization using Self-Organizing Maps 1814

Apostolia Papapostolou (Telecom Sudparis, FR)
Wendong Xiao (Institute for Infocomm Research, SG)
Hakima Chaouchi (Telecom Sudparis, FR)

Cooperative Joint Precoding for Relay Enhanced Cellular System: Design and Performance Evaluation	PIC
Jae-Woo Kwon (Korea University, KR) Ki-Hong Park (Korea University, KR) Young-Chai Ko (Korea University, KR) Hong-Chuan Yang (University of Victoria, CA)	
Optimal Energy-Efficient Cooperative Sensing Scheduling for Cognitive Radio Networks with QoS Guarantee	1825
Xiangxia Sun (Hong Kong University of Science and Technology, HK) Tengyi Zhang (Hong Kong University of Science and Technology, HK) Danny H.K. Tsang (Hong Kong University of Science and Technology, HK)	
A Cooperative MAC Protocol in Multi-Channel Wireless Ad Hoc Networks	1831
Tsung-Chin Shih (National Tsing Hua University, TW) Chien-Chi Kao (National Tsing Hua University, TW) Shun-Ren Yang (National Tsing Hua University, TW)	
Quantized Variational Filtering for Target Tracking and Relay Localization in Sensor Networks	1837
Majdi Mansouri (University of Technology of Troyes, FR) Lyes Khoukhi (University of Technology of Troyes, CA) Hichem Snoussi (University of Technology of Troyes, FR) Cédric Richard (Université de Nice Sophia-Antipolis, FR)	
Interval-Based Localization for Mobile Sensors in Low-Anchors Density Networks	1843
Farah Mourad (Université de Technologie de Troyes, FR) Hichem Snoussi (Université de Technologie de Troyes, FR) Cédric Richard (Université de Nice Sophia-Antipolis, FR)	
Optimal Path Selection for Quantized Target Tracking in Distributed Sensor Networks	1849
Majdi Mansouri (University of Technology of Troyes, FR) Hichem Snoussi (University of Technology of Troyes, FR) Cédric Richard (Université de Nice Sophia-Antipolis, FR)	
ThA-3: Modeling and Optimization (Wireless Sensor Networks Symposium)	
Session Chair: Wuyi Yue, Konan University, Japan	
Session Co-Chair: Tomohiko Taniguchi, Fujitsu Laboratories Ltd., Japan	
Traffic-Aware Game based Channel Assignment in Wireless Sensor Networks	1854
Fulong Jiang (Southeast University, CN) Hao Liu (Southeast University, CN) Longxing Shi (Southeast University, CN)	
Optimized Relay Repositioning for Wireless Sensor Networks Applied in Environmental Applications	1860
Fadi M. Al-Turjman (Queen's University, CA) Hossam S. Hassanein (Queen's University, CA) Mohamed Ibnkahla (Queen's University, CA)	

A Novel Linear Programming Formulation of Maximum Lifetime Routing Problem in Wireless Sensor Networks	1865
Bilge Kartal Cetin (CTIF, Aalborg University, DK)	
Neeli R. Prasad (CTIF, Aalborg University, DK)	
Ramjee Prasad (CTIF, Aalborg University, DK)	
Performance Modeling and Simulation Studies of MAC Protocols in Sensor Network Performance	1871
Herman Sahota (Iowa State University, US)	
Ratnesh Kumar (Iowa State University, US)	
Ahmed Kamal (Iowa State University, US)	
Virtual Grouping Byzantine Agreement: A Compromised Consensus Scheme for a Cooperative Network	1877
Hsiao-Chuan Yueh (National Taiwan University of Science and Technology, TW)	
Jenq-Shiou Leu (National Taiwan University of Science and Technology, TW)	
Fastest Mixing Markov Chain on Symmetric K-Partite Sensor Networks	1883
Saber Jafarizadeh (University of Sydney, AU)	
Abbas Jamalipour (University of Sydney, AU)	
ThA-4: Network Protocols (Wireless Networking Symposium)	
Session Chair:	Mahasweta Sarkar, San Diego State University, USA
A SINR based MAC Layer Protocol for Multi-Channel Ad-Hoc Networks	1889
Mahasweta Sarkar (San Diego State University, US)	
Santosh Nagaraj (San Diego State University, US)	
Imran Haider Balsania (San Diego State University, US)	
An OFDMA Communication Protocol for Wireless Sensor Networks used for Leakage Detection in Underground Water Infrastructures	1894
Elias Yaacoub (Qatar University Wireless Innovations Center, QA)	
Abdullah Kadri (Qatar University Wireless Innovations Center, QA)	
Adnan Abu-Dayya (Qatar University Wireless Innovations Center, QA)	
Scheduling Algorithm for Multimedia Services in Relay based OFDMA Cellular Networks	1900
Lin Xiao (Nanchang University, CN)	
Tiankui Zhang (Beijing University of Posts and Telecommunications, CN)	
Laurie Cuthbert (Queen Mary University of London, UK)	
Geng Su (Queen Mary University of London, UK)	
On Efficient Multipolling with Various Service Intervals for IEEE 802.11e WLANs	1906
Chin-Wen Chou (Academia Sinica, TW)	
Kate Ching-Ju Lin (Academia Sinica, TW)	
Tsern-Huei Lee (National Chiao Tung University, TW)	
Analytical Characterization of the Lowest Delay Bound in Bluetooth 2.0+EDR Transmissions	1912
R. Luque-Giráldez (University of Málaga, ES)	
M.J. Morón (University of Málaga, ES)	
E. Casilar (University of Málaga, ES)	

ThA-5: Human Centric Communications and Networking Workshop

Session Chair: Phone Lin, National Taiwan University, Taiwan

User-Generated E-Books from Facebook Contents 1918

Chen-Yuan Chuang (Chunghwa Telecom Co., Ltd., TW)
Yi-Bing Lin (National Chiao-Tung University, TW)
Zhihao Ren (National Chiao-Tung University, FR)
Yu-Tien Yeh (Telecom SudParis, FR)

Real-Time Information Distribution at a Shopping Mall using Android Phones 1923

Hiroto Aida (Tokyo Denki University, JP)
Soko Aoki (Keio University, JP)
Jin Nakazawa (Keio University, JP)
Hideyuki Tokuda (Keio University, JP)

UWB-Based Wireless Body Area Networks Channel Modeling and Performance Evaluation 1929

Xiyu Lu (Tsinghua University, CN)
Xinlei Chen (University of Tsinghua, CN)
Guang Sun (Tsinghua University, CN)
Depeng Jin (Tsinghua University, CN)
Ning Ge (Tsinghua University, CN)
Lieguang Zeng (Tsinghua University, CN)

Advertising in Human Centric Communication Networks 1935

Yu-Feng Chou (National Taiwan University of Science and Technology, TW)
Ray-Guang Cheng (National Taiwan University of Science and Technology, TW)
Pei-Yuan Ku (National Taiwan University of Science and Technology, TW)

Height Pattern Evaluation for Coverage Area Designing on Upper Floors of Multi-Story Buildings 1940

Yuki Hirota (KDDI R&D Laboratories, Inc., JP)
Shinobu Nanba (KDDI R&D Laboratories, Inc., JP)
Yoji Kishi (KDDI R&D Laboratories, Inc., JP)

iShare: An Ad-Hoc Sharing System for Internet Connectivity 1946

Hao-Min Lin (National Taiwan University, TW)
Hong-Ying Lin (National Taiwan University, TW)
Ai-Chun Pang (National Taiwan University, TW)
Chih-Wen Hsueh (National Taiwan University, TW)

Cooperative Localization for Wireless and Mobile Social Networking Service (SNS) 1952

Yu-Chung Chen (National Taiwan University, TW)
Chun-Ting Chou (National Taiwan University, TW)
Chun-Yu Chen (National Taiwan University, TW)

ThA-6: Multimedia Services and Technologies

(Multimedia over Wireless Symposium)

Session Chair: H. Wang, University of Massachusetts Dartmouth, USA

Common Feedback Channel for Multicast and Broadcast Services 1958

Ray-Guang Cheng (National Taiwan University of Science and Technology, TW)
Yao-Yuan Liu (National Taiwan University of Science and Technology, TW)
Wen-Yen Cheng (National Taiwan University of Science and Technology, TW)
Da-Rui Liu (National Taiwan University of Science and Technology, TW)

A Study on Heterogeneous Sensing and Networking Platform for Intelligent Transportation System 1964

Jingfang Huang (University of Massachusetts Dartmouth, US)
Honggang Wang (University of Massachusetts Dartmouth, US)
Hong Liu (University of Massachusetts Dartmouth, US)

Seamless Data Visualization for Frost Detection 1970

Jingfang Huang (University of Massachusetts Dartmouth, US)
Ikechukwu Azogu (University of Massachusetts Dartmouth, US)
Anusha Sunkara (University of Massachusetts Dartmouth, US)
Hong Liu (University of Massachusetts Dartmouth, US)
Honggang Wang (University of Massachusetts Dartmouth, US)
Heather Miller (University of Massachusetts Dartmouth, US)

On the Datacasting Scheme over Chinese DTTB Systems using Signal Space Diversity 1976

Xiaoqing Wang (Tsinghua University, CN)
Fang Yang (Tsinghua University, CN)
Jintao Wang (Tsinghua University, CN)

CORE-4: Cognition Oriented Relaying Exploiting 4-D Spectrum Holes 1982

Xijun Wang (Tsinghua University, CN)
Juan Liu (Tsinghua University, CN)
Wei Chen (Tsinghua University, CN)
Zhigang Cao (Tsinghua University, CN)

ThA-7: Social Networking

Session Chair: Tarik Taleb, NEC-Europe

Evaluation Performance of Anti Collision Circuit based BSS Method for RFID System 1988

M. Ounas (USTHB University, DZ)
S. Chitroub (USTHB University, DZ)
R. Touhami (USTHB University, DZ)
M.C.E. Yagoub (University of Ottawa, CA)

Study on a Strategy for Spectrum Efficiency Enhancement of DTV White Space in Korea 1992

Heejoong Kim (Keio University, JP)
Hyungoo Yoon (Myongji College, KR)
Hideki Sunahara (Keio University, JP)

VN-Tree for Efficient Nearest Neighbors Search in Location based Services 1997

Hassenet Slimani (Faculty of Sciences-Elmanar, TN)
Faïza Najjar (National School of Computer Sciences, TN)

An Integrated Transportation System for Baseband data, Digital and Analogue Radio Signals over Fibre Network 2003

Seyed Reza Abdollahi (Brunel University, UK)
Hamed Al-Raweshidy (Brunel University, UK)
Rajagopal Nilavalan (Brunel University, UK)
Alieh Ahmadiania (Brunel University, UK)

An Artificial Chemistry based Framework for Personal and Social Context Aware Smart Spaces 2009

Ahsan Ikram (University of the West of England, UK)
Nigel Baker (University of the West of England, UK)
Michael Knappmeyer (University of Applied Sciences Osnabrück, DE)
Eike Steffen Reetz (University of the West of England, UK)
Ralf Tönjes (University of Applied Sciences Osnabrück, DE)

Precision Agriculture Monitoring Framework based on WSN 2015

Yassine Jiber (Al Akhawayn University in Ifrane, MA)
Hamid Harroud (Al Akhawayn University in Ifrane, MA)
Ahmed Karmouch (University of Ottawa, CA)

ThA-8: Federation of Wireless Sensor Systems (FedSenS Workshop)

Session Chair: Kemal Akkaya, Southern Illinois University Carbondale, USA

Session Co-Chair: Ismail Ari, Ozyegin University, Istanbul, Turkey

Building Blocks for Secure Multiparty Federated Wireless Sensor Networks 2021

Christophe Huygens (Katholieke Universiteit Leuven, BE)
Nelson Matthys (Katholieke Universiteit Leuven, BE)
Jef Maerien (Katholieke Universiteit Leuven, BE)
Wouter Joosen (Katholieke Universiteit Leuven, BE)
Danny Hughes (Xi'an Jiaotong-Liverpool University, CN)

Protecting Bridges: Reorganizing Sensor Networks after Catastrophic Events 2028

Ladislau Bölöni (University of Central Florida, US)
Damla Turgut (University of Central Florida, US)

Investigation of Querying Techniques for Federated Sensor Networks 2034

Murat Demirbas (University at Buffalo, SUNY, US)
Zuhal Tepecik Can (University at Buffalo, SUNY, US)

Optimized Relay Placement to Federate Wireless Sensor Networks in Environmental Applications 2040

Fadi M. Al-Turjman (Queen's University, CA)
Hossam S. Hassanein (Queen's University, CA)
Mohamed Ibnkahla (Queen's University, CA)

Restoring Connectivity in Wireless Sensor-Actor Networks with Minimal Node Movement P 1C

Ameer A. Abbasi (King Fahd University of Petroleum & Minerals, SA)
Mohamed Younis (University of Maryland Baltimore County, US)
Uthman Baroudi (King Fahd University of Petroleum & Minerals, SA)

Finding Event Correlations in Federated Wireless Sensor Networks 2052

Ismail Ari (Ozyegin University, TR)
Ömer F. Çelebi (Ozyegin University, TR)

Least Distance Movement Recovery Approach for Large Scale Wireless Sensor and Actor Networks 2058

Abdullah Alfadhly (King Fahd University of Petroleum and Minerals, SA)
Uthman Baroudi (King Fahd University of Petroleum and Minerals, Dhahran, SA)
Mohamed Younis (University of Maryland Baltimore County, US)

ThA-9: Power Control (Wireless Networking Symposium)
Session Chair: Feza Buzluca, Istanbul Technical University, Turkey

Joint Optimization of Uplink Power Control Parameters in LTE-Advanced Relay Networks 2064

Ömer Bulakci (Nokia Siemens Networks, DE)
Ahmad Awada (Nokia Siemens Networks, DE)
Abdallah Bou Saleh (Aalto University School of Electrical Engineering, DE)
Simone Redana (Nokia Siemens Networks, DE)
Jyri Hämäläinen (Aalto University School of Electrical Engineering, DE)
Bernhard Wegmann (Nokia Siemens Networks, DE)
Bernhard Raaf (Nokia Siemens Networks, DE)
Ingo Viering (Nomor Research GmbH, DE)

Multi-Objective Distributed Power Control for Spectrum-Sharing Cognitive Radios 2070

Ruifeng Duan (University of Vaasa, FI)
Mohammed Salem Elmusrati (University of Vasa, FI)

On the Impact of Links Characterization and Power Allocation in Relay Assisted Communications 2076

C. La Palombara (University of Bologna, IT)
A. Conti (University of Ferrara / University of Bologna, IT)
B.M. Masini (University of Bologna, IT)
V. Tralli (University of Ferrara, IT)

Femtocell BS Power Control by using Game Theory Approach for Two-Tier WiMAX Networks 2082

Jenhui Chen (Chang Gung University, TW)
Chin-Yang Sheng (Chang Gung University, TW)
Yu-Fang Hsiao (Institute for Information Industry, TW)

A Methodology for Selecting Experiments to Measure Energy Costs in Smartphones 2087

Renuka Arya (University of Waterloo, CA)
Rajesh Palit (University of Waterloo, CA)
Kshirasagar Naik (University of Waterloo, CA)

ThA-10: Resource Allocation and Management-III

(Wireless Networking Symposium)

Session Chair: Nidal Nasser, Guelph University, Canada

Hybrid Spectrum Allocation Scheme in Wireless Cellular Networks 2093

Rejoy George (University of Surrey, UK)
Osianoh Glenn Aliu (University of Surrey, UK)
Muhammad Ali Imran (University of Surrey, UK)

Optimized Prophet Address Allocation (OPAA) for Body Area Networks 2098

Samaneh Movassaghi (University of Technology, Sydney, AU)
Mehran Abolhasan (University of Technology, Sydney, AU)
Justin Lipman (Intel R&D, CN)

Traffic-Prediction-Assisted Dynamic Bandwidth Assignment for Hybrid Wireless Optical Networks ... 2103

Maysam Mirahmadi (The University of Western Ontario, CA)
Abdallah Shami (The University of Western Ontario, CA)

AFDX Wireless Scheduler and Free Bandwidth Managing in 802.11e (HCCA)/AFDX Network 2109

Bafing C. Sambou (University of Toulouse, FR)
Fabrice Peyrard (University of Toulouse, FR)
Christian Fraboul (University of Toulouse, FR)

Data Offloading Method for Interference and Mobility Management in Femtocell Systems 2115

Ziming Zhu (Toshiba Research Europe, UK)
Zhong Fan (Toshiba Research Europe, UK)
Fengming Cao (Toshiba Research Europe, UK)
Yong Sun (Toshiba Research Europe, UK)

ThA-11: Emergency management (EMCCP Workshop)

Session Chair: Bin Liu, University of Science and Technology of China, P. R. China

Session Co-Chair: Ciprian Dobre, University Politehnica of Bucharest, Romania

Consistent Reconfiguration Protocols for Adaptive High-Performance Applications 2121

Carlo Bertolli (Imperial College London, UK)
Gabriele Mencagli (University of Pisa, IT)
Marco Vanneschi (University of Pisa, IT)

Mobile Computing in Digital Ecosystems: Design Issues and Challenges 2127

Gabriele D'Angelo (University of Bologna, IT)
Stefano Ferretti (University of Bologna, IT)
Vittorio Ghini (University of Bologna, IT)
Fabio Panzieri (University of Bologna, IT)

A Context Aware MAC Protocol for Medical Wireless Body Area Network 2133

Zhisheng Yan (University of Science and Technology of China, CN)
Bin Liu (University of Science and Technology of China, CN)

A Model for Traffic Control in Urban Environments 2139

Vlad-Alexandru Dragoi (University Politehnica of Bucharest, RO)
Ciprian Dobre (University POLITEHNICA of Bucharest, RO)

Security Issues in Emergency Networks 2145

Maurizio Casoni (University of Modena and Reggio Emilia, IT)
Alessandro Paganelli (University of Modena and Reggio Emilia, IT)

DMR Networks for Health Emergency Management: A Case Study 2151

T. Onali (University of Cagliari, IT)
M. Sole (University of Cagliari, IT)
D.D. Giusto (University of Cagliari, IT)

Droid Jacket: Using an Android based Smartphone for Team Monitoring 2157

Márcio F.M. Colunas (University of Aveiro, PT)
José M. Amaral Fernandes (University of Aveiro, PT)
Ilídio C. Oliveira (University of Aveiro, PT)
João Silva Cunha (University of Aveiro, PT)

ThA-12: Performance Analysis (Wireless Networking Symposium)**Session Chair:** Mahasweta Sarkar, San Diego State University, USA**Performance Evaluation of the Network Lifetime for Routing Protocols in WSN 2162**

Mustapha Reda Senouci (EMP, DZ)
Abdelhamid Mellouk (University of Paris Est Creteil (UPEC), FR)
Amar Aissani (USTHB, DZ)
Hadj Senouci (Moulay Tahar University, DZ)

Performance Evaluation of Link to System Interface for Long Term Evolution System 2168

Zakaria Hanzaz (University of Kaiserslautern, DE)
Hans Dieter Schotten (University of Kaiserslautern, DE)

Mobile Accelerator: A New Approach to Improve TCP Performance in Mobile Data Networks 2174

Ke Liu (The Chinese University of Hong Kong, HK)
Jack Y.B. Lee (The Chinese University of Hong Kong, HK)

A New Adaptive Differentiated P-Persistent CSMA Protocol that Reduces the Effect of the Transmission Errors on the System Throughput Performance 2181

Salim Abukharis (University of Sheffield, UK)
Tim O'Farrell (University of Sheffield, UK)

Markov Analysis of the Mobile Hidden Station Problem in MANET 2186

Kazi Atiqur Rahman (University of Windsor, CA)
Nabih Jaber (University of Windsor, CA)
Kemal E. Tepe (University of Windsor, CA)

ThA-13: MIMO and Cellular Systems (General Symposium)**Session Chair:** Mehrdad Dianati, University of Surrey, United Kingdom**Impact of Directive Handset Antennas on the Performance of Outdoor-to-Indoor MIMO Systems ... P IC**

Amir Ghasemi (Communications Research Centre, CA)
Amir Ali Basri (Communications Research Centre, CA)
John Sydor (Communications Research Centre, CA)

A Simulation based Study of Mobile Femtocell Assisted LTE Networks 2198

Fourat Haider (University of Surrey, UK)
Mehrdad Dianati (University of Surrey, UK)
Rahim Tafazolli (University of Surrey, UK)

Petri Net Modelling of Network Selection for Integrated Cellular/WLAN Networks 2204

Shan Yang (Beijing Jiaotong University, CN)
Wei Song (University of New Brunswick, CA)
Zhangdui Zhong (Beijing Jiaotong University, CN)

An Integer Frequency Offset Estimation Scheme Robust to Fractional Frequency Offset Variation 2210

Youngyoon Lee (Sungkyunkwan University, KR)
Seung Goo Kang (Sungkyunkwan University, KR)
Junhwan Kim (Sungkyunkwan University, KR)
Seokho Yoon (Sungkyunkwan University, KR)

An Extension of NS-2 to Support Multiple Networks	2214
Cheng Jin (Carleton University, CA)	
Thomas Kunz (Carleton University, CA)	

ThA-14: Mobile Computing (Mobile Computing Symposium)

Session Chair: Tarik Taleb, NEC-Europe

Session Co-Chair: Jad Nasreddine, RWTH Aachen University, Germany

QoS-Aware Joint Policies in Cognitive Radio Networks	2220
Saber Salehkaleybar (Sharif University of Technology, IR)	
Seyyed Arash Majd (Sharif University of Technology, IR)	
Mohammad Reza Pakravan (Sharif University of Technology, IR)	

An Efficient Implementation of PRACH Generator in LTE UE Transmitters	2226
Ying He (Chinese Academy of Sciences, CN)	
Jian Wang (Chinese Academy of Sciences, CN)	
Yongtao Su (Chinese Academy of Science, CN)	
Eryk Dutkiewicz (Macquarie University, AU)	
Xiaojing Huang (CSIRO ICT Centre, AU)	
Jinglin Shi (Chinese Academy of Sciences, CN)	

A Routing Framework for Delay Tolerant Networks based on Encounter Angle	2231
Yue Cao (University of Surrey, UK)	
Haitham Cruickshank (University of Surrey, UK)	
Zhili Sun (University of Surrey, UK)	

G-ER: Group-Epidemic Routing for Mobile Ad Hoc Networks with Buffer Sharing Mechanism	2237
Ling Fu Xie (Nanyang Technological University, SG)	
Peter H.J. Chong (Nanyang Technological University, SG)	
Yong Liang Guan (Nanyang Technological University, SG)	
Boon Chong Ng (Nanyang Technological University and DSO National Laboratories, SG)	

Diversity Combining for Mobile FSO Nodes in SIMO Setup	2243
Hassan Moradi (University of Oklahoma, US)	
Hazem H. Refai (University of Oklahoma, US)	
Peter G. LoPresti (Tulsa University, US)	
Mohammed Atiquzzaman (University of Oklahoma, US)	

Per-Application Mobility Management: Performance Evaluation of the UPMT Solution	2249
Marco Bonola (University of Rome "Tor Vergata", IT)	
Stefano Salsano (University of Rome "Tor Vergata", IT)	

Survivability Analysis of Mobile Cyber Physical Systems with Voting-Based Intrusion Detection	2256
Robert Mitchell (Virginia Tech, US)	
Ing-Ray Chen (Virginia Tech, US)	

Design and Implementation of Utility-Based Radio Resource Optimization using CAPRI	2262
Krisakorn Rerkrai (RWTH Aachen University, DE)	
Jad Nasreddine (RWTH Aachen University, DE)	
Zhou Wang (European Microsoft Innovation Center, DE)	
Janne Riihijärvi (RWTH Aachen University, DE)	
Petri Mähönen (RWTH Aachen University, DE)	