

2016 Wireless Days (WD 2016)

**Toulouse, France
23-25 March 2016**



**IEEE Catalog Number: CFP1614F-POD
ISBN: 978-1-5090-2495-7**

**Copyright © 2016 by the Institute of Electrical and Electronic Engineers, Inc
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

******This publication is a representation of what appears in the IEEE Digital Libraries. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP1614F-POD
ISBN (Print-On-Demand):	978-1-5090-2495-7
ISBN (Online):	978-1-5090-2494-0
ISSN:	2156-9711

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

Wireless Days 2016 Technical Sessions

WiCom 1 : Wireless Communication – session 1 (Wednesday 23 11h45-12h45)

How to wake up an access point? 148

Dareen Shehadeh (Institut Mines Telecom / Telecom Bretagne, France) Tanguy Kerdoncuff (Institut Mines Telecom / Telecom Bretagne, France) Alberto P Blanc (Telecom Bretagne, France) Nicolas Montavont (Institut Mines Telecom / Telecom Bretagne, France)

A dynamic rate adaptation algorithm using WB E-model for voice traffic over LTE network 142

Duy-Huy Nguyen (Telecom SudParis, France) Hang Nguyen (Institut Mines-Telecom, Telecom SudParis, France)

A Clustering Algorithm for Distributed Service Registries in Heterogeneous Wireless Networks 112

Christopher Kramer (University of Kaiserslautern, Germany) Dennis Christmann (University of Kaiserslautern, Germany) Reinhard Gotzhein (University of Kaiserslautern, Germany)

WiCom 2 : Wireless Communication – session 2 (Wednesday 23 15h30-17h00)

A New Waveform based on Slepian Basis for 5G System 77

Xianjun Yang (Fujitsu Research & Development Center, P.R. China) Wang Xin (Fujitsu Research and Development Center, Beijing, P.R. China) Jian Zhang (Fujitsu R&D Center China, P.R. China)

Outage Probability of Full-Duplex Fixed-Gain AF Relaying in Rayleigh Fading Channels 8

Ibrahim Altunbaş (Istanbul Technical University, Turkey) Asil Koc (Istanbul Technical University, Turkey) Abbas Yongacoglu (University of Ottawa, Canada)

Wsec : Wireless Security (Wednesday 23 14h00-15h00)

Evaluation of Sybil Attack Detection Approaches in the Internet of Things Content Dissemination 245

Danilo Evangelista (Federal University of Parana, Brazil) Farouk Mezghani (University of Toulouse, France) Aldri Santos (UFPR, Brazil) Michele Nogueira (Federal University of Paraná, Brazil)

Key Exchange Protocols for Secure Device-to-Device (D2D) Communication in 5G 71

Ravindranath Sediti (Indian Institute of Technology Hyderabad, India) Abhinav Kumar (Indian Institute of Technology Hyderabad, India)

V&DTN : Vehicular and Delay Tolerant Networks (Wednesday 23 14h00-15h00)

Path Planning of Unmanned Aerial Vehicles With Terrestrial Wireless Network Tracking 293

Mustapha Bekhti (Université Paris 13, Sorbonne Paris Cité, France) Marwen Abdennebi (L2TI Laboratory, University of Paris Nord, France) Nadjib Achir (University of Paris 13 & L2TI - University of Paris 13, France) Khaled Boussetta (University of Paris 13, France)

Analysis of multi-hop broadcast in vehicular ad hoc networks: a reliability perspective 134

Mozhdeh Gholibeigi (University of Twente, The Netherlands) Geert Heijenk (University of Twente, The Netherlands)

AHSN 1 : Ad Hoc and Sensor Networks – session 1 (Wednesday 23 11h15-12h45)

New 802.11aa ACK leader selection scheme for multicast QoS improvement 287

Kaouther Mansour (ENIT, Tunisia) Issam Jabri (Ecole Nationale d'Ingénieurs de Gabès, Tunisia) Tahar Ezzeddine (ENIT, Tunisia)

Reliability Assessment of Wireless Sensor Network Deployments 271

Dina Deif (The American University in Cairo, Egypt) Yasser Gadallah (The American University in Cairo, Egypt)

DecaDuino: An Open Framework for Wireless Time-of-Flight Ranging Systems 185

Adrien van den Bossche (Université Fédérale de Toulouse, France) Rejane Dalce (Institut de Recherche en Informatique de Toulouse UMR 5505 - CNRS, France) Fofana Nezo Ibrahim (University of Toulouse, France) Thierry Val (University of TOULOUSE - UT2J - CNRS - IRIT - IRT team, France)

AHSN 2 : Ad Hoc and Sensor Networks – session 2 (Thursday 24 10h45-12h45)

Social-aware Clustering for Wireless Ad hoc Networks 128

Luis Conceição (University of Coimbra, Portugal) Marília Curado (University of Coimbra, Portugal)

Simba: Similar-evolution Based Aggregation in Wireless Sensor Networks 103

Jin Cui (Univ Lyon, INSA Lyon, Inria, CITI, France) Fabrice Valois (Univ Lyon, INSA Lyon, Inria, CITI, France)

Confident-based Adaptable Connected objects discovery to HARmonize smart City Applications 55

Riccardo Petrolo (Inria Lille - Nord Europe, France) Valeria Loscri (Inria Lille-Nord Europe, France) Nathalie Mitton (Inria Lille - Nord Europe, France)

Collaborative Edge Mining for Predicting Heat Stress in Dairy Cattle 14

Kriti Bhargava (Telecommunications Software & Systems Group, Waterford Institute of Technology, Ireland) Stepan Ivanov (Waterford Insitute of Technology & TSSG, Ireland)

AHSN 3 : Ad Hoc and Sensor Networks – session 3 (Friday 25 10h45-12h45)

MCLSPM: Multi-constraints Link Stable Multicast Routing Protocol in Adhoc Networks 227

Gaurav Singal (Malaviya National Institute of Technology, Jaipur, India) Vijay Laxmi (Malaviya National Institute of Technology, Jaipur, India) Manoj Singh Gaur (Malaviya National Institute of Technology, India) Swati Todi (RU, Jaipur, India) Vijay Rao (DRDO, India) Akka Zemhari (University of Bordeaux, France)

Traffic-adaptive duty cycle adaptation in TR-MAC protocol for Wireless Sensor Networks 198

Sarwar Morshed (University of Twente, The Netherlands) Mitra Baratchi (University of Twente, The Netherlands) Geert Heijenk (University of Twente, The Netherlands)

Energy-Efficient Adaptive Forwarding Scheme for MANETs 160

Atif A. Alghamdi (Heriot Watt University - Edinburgh, United Kingdom) Robert Pooley (Heriot Watt University at Edinburgh UK, United Kingdom) Peter King (Heriot Watt University at Edinburgh UK, United Kingdom)

Dynamic Multi-Channel Allocation Mechanism for Wireless Multimedia Sensor Networks 65

Zongyi Liu (Toulouse Institute of Computer Science Research(IRIT), INSA, University of Toulouse, France) Daniela Dragomirescu (LAAS-CNRS, University of Toulouse & University of Toulouse, France) Georges Da Costa (University of Toulouse, France) Thierry Monteil (LAAS-CNRS, University of Toulouse, France)

5G : 5G (Friday 24 10h45-12h45)

Mobile Users Assignment Control Strategies For LTE Networks 257

Barth Dominique (University of Versailles, France) Amira Choutri (University of Versailles, France) Leila Kloul (PRiSM Laboratory, University of Versailles, France) Olivier Marce (Alcatel-Lucent Bell Labs, France)

Optimization of the predefined number of replications in a Ultra Narrow Band based IoT network 251

Yuqi Mo (CITI of INSA-LYON & SIGFOX, France) Minh-Tien Do (Centre of Innovation in Telecoms and Integration Service, INSA Lyon & SIGFOX, France) Claire Goursaud (INSA-Lyon, France) Jean-Marie Gorce (INSA-Lyon, France)

Deployment of UAV-Mounted Access Points According to Spatial User Locations in Two-Tier Cellular Networks 122

Boris Galkin (Trinity College Dublin, Ireland) Jacek Kibilda (Trinity College Dublin, Ireland) Luiz DaSilva (Trinity College & Trinity College Dublin, Ireland)

LTE-A Random Access Channel Capacity Evaluation for M2M Communications 88

Soukaina Cherkaoui (INSA Lyon & INRIA, France) Inès Keskes (Ecole Nationale d'Ingénieurs de Tunis, INSA Lyon, France) Herve Rivano (Inria & Université de Lyon, INRIA, INSA Lyon, CITI, France) Razvan Stanica (INSA Lyon, France)

WM&S 1 : Wireless Models and Simulations – session 1 (Wednesday 23 15h30-17h00)

Evaluation of Medium Access and a Positioning System in Wireless Underground Sensor Networks 97

Sergio Conceição (INESC TEC, Portugal) Cristiano Pendão (University of Minho, Portugal) Adriano Moreira (University of Minho & Algoritmi Research Centre, Portugal) Manuel Pereira Ricardo (Universidade do Porto & INESC Porto, Portugal)

Modeling, Implementation and Evaluation of IEEE 802.11ac in NS3 for Enterprise Networks 46

André Jönsson (Lund University, Sweden) David Åkerman (Lund University, Sweden) Emma Fitzgerald (Lund University, Sweden) Christian Nyberg (Lund University, Sweden) Basuki Endah Priyanto (Sony Mobile Communications AB, Sweden) Kåre Agardh (Sony Mobile Communications AB, Sweden)

Multi-client Emulation Platform for Performance Testing of High Density 802.11 Networks 40

Germán Álvarez (Plan Ceibal, Uruguay) Martín Álvarez (Plan Ceibal, Uruguay) Fernando Bagalciague (Laboratorio de Otoneurología, Uruguay) Germán Capdehourat (Universidad de la República & Centro Ceibal, Uruguay) Juan González (Plan Ceibal & Universidad de la República, Uruguay) Juan Marfía (Plan Ceibal, Uruguay) Pedro Porteiro (Plan Ceibal, Uruguay) Ana Rodríguez (Plan Ceibal, Uruguay)

WM&S 2 : Wireless Models and Simulations – session 2

MN&App : Mobile Networks Protocols and Applications (Thursday 24 10h45-12h45)

QoE Optimization of ON/OFF Video Streaming Strategy in Wireless Networks 167

Mohamed Bouzian (University of Nice Sophia Antipolis & Orange Labs, France) Mustapha Bouhtou (Orange Labs, France) Taoufik En-Najjary (Orange Labs, France) Lucile Sassatelli (Université Nice Sophia Antipolis, France) Guillaume Urvoy-Keller (Université de Nice Sophia-Antipolis, France)

Towards a Time-domain Traffic Model for Adaptive Industrial Communication in ISM Bands 154

Ahmad Saad (Fraunhofer Institute for Embedded Systems and Communication Technologies ESK, Germany) Barbara Staehle (HTWG Konstanz, Germany)

Modeling Aeronautical Data Traffic Demand 32

Christoph Petersen (Hamburg University of Technology, Germany) Maciej Mühleisen (Hamburg University of Technology & RWTH Aachen University, Faculty 6, Germany) Andreas Timm-Giel (Hamburg University of Technology, Germany)

A Study on MPTCP for Tolerating Packet Reordering and Path Heterogeneity in Wireless Networks 1

Amani Alheid (University of Bristol & Public Authority for Applied Education and Training (PAAET) - Kuwait, United Kingdom) Angela Doufexi (University of Bristol, United Kingdom) Dritan Kaleshi (University of Bristol, United Kingdom)

AHSN 4 : Ad Hoc and Sensor Networks – session 4 (Friday 25 14h00-16h00)

Finding Network Connectivity Failure in a Wireless Sensor Network 299

Mahmuda Naznin (Bangladesh University of Engineering and Technology (BUET), Bangladesh)

Virtual and Unified Address Assignment for Continuous Communication in Mobile Networks 277

Robson Gomes de Melo (Federal University of Paraná, Brazil) Farouk Mezghani (University of Toulouse, France) Michele Nogueira (Federal University of Paraná, Brazil) Aldri Santos (UFPR, Brazil)

Monitoring KPIs in Synchronized FTDMA Multi-hop Wireless Networks 265

Guillaume Gaillard (INSA LYON, Citi Lab & Orange Labs, France) Dominique Barthel (Orange Labs & France Telecom, France) Fabrice Theoleyre (CNRS - University of Strasbourg, France) Fabrice Valois (Univ Lyon, INSA Lyon, Inria, CITI, France)

Maximally Pair-wise Disjoint Set Covers for Directional Sensors in Visual Sensor Networks 81

Shahla Farzana (Bangladesh University of Engineering and Technology, Bangladesh) Khaleda Papry (Bangladesh University of Engineering and Technology, Bangladesh) Ashikur Rahman (State University of New York, USA) Raqeebir Rab (Ahsanullah University of Science and Technology, Bangladesh)

WM&S3 : Wireless Models and Simulations – session 3 (Friday 25, 14h00-16h00)

A New Approach to Polynomial Chaos Expansion for Stochastic Analysis of EM Wave Propagation in an UWB Channel 213

Piotr Górniak (Poznań University of Technology, Poland) Wojciech Bandurski (Poznań University of Technology, Poland)

Laboratory tests of ATSC M/H commercial receivers 207

Flor G. Ortiz (Universidad Nacional Autónoma de México, Mexico) Carmen López (Universidad Nacional Autónoma de México, Mexico) Mario Hernández (National Autonomous University of Mexico, Mexico) Andrés Miranda (Universidad Nacional Autónoma de México, Mexico) José María Matías (Universidad Nacional Autónoma de México, Mexico)

Effective Deployment of Cooperative Moving Relay Nodes in a High Speed Train 26

Ayotunde Laiyemo (Centre for Wireless Communication, Finland) Harri Pannanen (University of Oulu, Finland) Pekka Pirinen (University of Oulu, Finland) Matti Latva-aho (UoOulu, Finland)

Wireless Days 2016 Poster Sessions

Poster session 1

AHSN-P : Ad Hoc and Sensor Networks – Poster Session (Wednesday 23 10h30-11h15)

Multi-channel routing protocol for dynamic WSN 242

Bizagwira Honoré (Université Blaise Pascal & France, France) Joël Toussaint (LIMOS - CNRS, France) Michel J. Misson (Clermont Université / LIMOS CNRS, France)

QoS-aware Streaming With HCCA TXOP Negotiation in Overlapped Wi-Fi Networks 221

Evgeny Khorov (IITP RAS, Russia) Anton Kiryanov (IITP RAS) Andrey Lyakhov (IITP RAS, Russia)

Why is Frequency Channel Diversity so Beneficial in Wireless Sensor Networks? 182

Liviu-Octavian Varga (STMicroelectronics, France) Martin Heusse (Grenoble Informatics Laboratory & Grenoble INP, France) Roberto Guizzetti (STMicroelectronics, France) Andrzej Duda (Grenoble Institute of Technology, France)

Machine-to-Machine Communications over the Internet of Things: Private Wi-Fi Access Prospects 109

Mohamed Anis (Ain-shams University, Egypt) Yasser Gadallah (The American University in Cairo, Egypt) Hadya El-Hennawy (Ain Shams University, Egypt)

Fragment Retransmission Scheme with Enhanced Collision Avoidance for Energy-Efficient IEEE 802.11 WLANs 61

Prosper Mafole (University of Dar es Salaam, Tanzania) Mussa Kissaka (University of Dar es Salaam, Tanzania) Masayoshi Aritsugi (Kumamoto University, Japan)

Towards Quality of Service for Long-range IoT in Unlicensed Radio Spectrum 37

CongDuc Pham (University of Pau, France)

LEACH-Reformed Clusters: A Novel Cluster Formation Algorithm in LEACH protocol 23

Vesna Glavonjic (University of Belgrade, Serbia) Ljerka Beus-Dukic (University of Westminster, United Kingdom) Aleksandar Neskovic (University of Belgrade, School of Electrical Engineering, Serbia)

A Novel Dynamic Secure Combinatorial Key Approach for Differentiated Heterogeneous WSNs 20

Wael Hosny Fouad Aly (University of Quebec in Montreal, Canada)

Poster session 2

WiCom-P : Wireless Communication – Poster Session

V&DTN-P : Vehicular and Delay Tolerant Networks – Poster Session (Thursday 24 10h00-10h45)

QoS-aware Admission Control Formalism for OFDMA-based Network 239

Abbes Yosra (Supcom, Tunisia) Sameh Najeh (Sup'com, Tunisia) Hichem Besbes (Ecole Supérieure de Communications de Tunis, Sup'Com, University of Carthage, TUNISIA, Tunisia)

A Cooperative MAC Protocol for Lossy Forwarding Networks 233

Mathias Brulatout (Thales Communications & Security, France) Hicham Khalife (Thales Communications & Security, France) Vania Conan (Thales Communications & Security, France) Szymon Szott (AGH University of Science and Technology, Poland) Marek Natkaniec (AGH University of Science and Technology, Poland) Katarzyna Kosek-Szott (AGH University of Science and Technology, Poland) Lukasz Prasnal (AGH University of Science and Technology, Poland)

Real Time Haptic Data Transferring 224

George Kokkonis (University of Macedonia, Greece) Kostas Psannis (University of Macedonia, Greece) Manos Roumeliotis (University of Macedonia, Greece)

Enhanced CSI Feedback Scheme for Non-Orthogonal Multiple Access 52

Wei Xi (Fujitsu Research & Development Center Co., LTD., P.R. China) Hua Zhou (Fujitsu Research & Development Center Co., LTD, P.R. China)

Hybrid Solutions for Data Dissemination in Vehicular Networks 283

Lars Wischhof (Munich University of Applied Sciences & Hochschule Muenchen, Germany) Smriti Gopinath (Munich University of Applied Sciences, Germany) Christoph Poniakwar (Munich University of Applied Sciences, Germany) Hans-Joachim Hof (Munich University of Applied Sciences, Germany)

Survey of Angle-based Forwarding Methods in VANET Communications 218

Lisa Kristiana (University of Zürich, Switzerland) Burkhard Stiller (University of Zürich & ETH Zürich, TIK, Switzerland) Corinna Schmitt (University of Zurich, Switzerland)

Dissemination Strategies in Realistic V2V Highway Networks: the Madrid Trace Case 119

Alexandre Mouradian (University Paris-Sud, France) Véronique Vèque (University of Paris-Sud 11, France)

Massive M2M Deployments: LTE Attachment Prospects 175

Mostafa elTager (Cairo University, Egypt) Yasser Gadallah (The American University in Cairo, Egypt)

Reduced M2M Signaling Communications in 3GPP LTE and Future 5G Cellular Networks 192

Pilar Andres-Maldonado (University of Granada, Spain) Pablo Ameigeiras (University of Granada, Spain) Jonathan Prados (University of Granada, Spain) Juan J. Ramos-Muñoz (University of Granada, Spain) Juan M. Lopez-Soler (University of Granada, Spain)

**Poster
session 3**

WM&S-P : Wireless Models and Simulations – Poster Session

MN&App-P : Mobile Networks Protocols and Applications – Poster Session

5G-P : 5G – Poster Session (Friday 25 10h00-10h45)

Thresholds Selection for Censored Energy Detection based Two Witnesses Rule for Cognitive Radio Networks 236

Rahma Bouraoui (Engineering College of Communication of Tunis, Sup'Com & COSIM Reaserch Lab, Tunisia) Hichem Besbes (Ecole Supérieure de Communications de Tunis, Sup'Com, University of Carthage, TUNISIA, Tunisia)

Assessing the WiFi offloading benefit on both service performance and EMF exposure in urban areas 178

Mathieu Brau (SIRADEL, France) Julien Stephan (SIRADEL, France) Luis Diez (University of Cantabria, Spain) Yoann Corre (SIRADEL, France) Yves Lostanlen (SIRADEL & University of Toronto, Canada) Ramón Agüero (University of Cantabria, Spain)

Very Tight Coupling Between LTE and WiFi: From Theory To Practice 204

Younes Khadraoui (Institut Mines Telecom / Telecom Bretagne & IRISA, France) Xavier Lagrange (Institut Mines Telecom / Telecom Bretagne & IRISA, France) Annie Gravey (Institut Mines Telecom - Telecom Bretagne & UMR CNRS 6074 IRISA, France)

Latency Evaluation of a Virtualized MME 195

Jonathan Prados (University of Granada, Spain) Juan J. Ramos-Muñoz (University of Granada, Spain) Pablo Ameigeiras (University of Granada, Spain) Pilar Andres-Maldonado (University of Granada, Spain) Juan M. Lopez-Soler (University of Granada, Spain)

Minimizing Delays in Mobile Networks with Dynamic Gateway Placement and Active Queue Management 94

Jani Lakkakorpi (Nokia, Finland) Hannu Flinck (Nokia Networks, Finland) Johanna Heinonen (Nokia Networks, Finland) Pekka Korja (Nokia, Finland) Tapio Partti (Nokia, Finland) Kalle Soranko (Nokia, Finland)