



MSWiM 2014

We are very pleased to welcome you to MSWiM 2014, held in Montreal, Canada. We are confident that both the conference and your stay in Miami will be informative, interesting, and above all enjoyable!

MSWiM 2014 Organizing Committee

17th ACM INTERNATIONAL CONFERENCE ON MODELING, ANALYSIS AND SIMULATION OF WIRELESS AND MOBILE

Vision

For over a decade, MSWiM has established itself as a premier conference in the areas of modeling, analysis and performance evaluation of wireless and mobile systems. The importance of these areas is becoming more evident, year-by-year, with the unprecedented ubiquity and capability of mobile systems. There is no doubt that research in these areas will remain essential to the design of efficient mobile systems and the future Internet.

Strong Program

In 2013, the call for papers attracted 184 registered papers in all areas of mobile and wireless systems of which 160 were accepted into the review process. The submitted papers came from 39 countries, and the accepted papers from 32 countries, reflecting the truly international profile of MSWiM. Members of the Technical Program Committee were drawn from 17 countries spread over five continents.

Co-located Events

Co-located with the main conference, the Symposia are covering several specializations within mobile and wireless systems: Mobility management and wireless access (MobiWAC); Performance evaluation of wireless ad hoc, sensor, and ubiquitous networks (PE-WASUN); and Design and Analysis of Intelligent Vehicular networks and Applications (DIVANet). Also, one workshop takes place covering performance and measurement of wireless and heterogeneous networks (PM2HW2N).

TECHNICAL PROGRAM

Montreal, Canada September 21-25, 2014



PROGRAM SCHEDULE (at a glance)

Symposia and Workshops Day 1	MSWiM Day 1	MSWiM Day 2	MSWiM Day 3	Symposia and Workshops Day 2
SUN - Sep 21	MON - Sep 22	TUE - Sep 23	WED - Sep 24	THU - Sep 25
7:30 8:00 8:30 9:00 9:30 10:00 10:30 11:00 11:30 12:00 12:30 13:00 13:30 14:00 14:30 15:00 15:30 16:00 16:30 17:00 17:30 18:00	Registration Welcome Opening Address Keynote 1 Prof. Ian F. Akyildiz (8:30 - 9:30) Session 1 Wireless Sensor Networks (I) (9:30 - 10:45) Coffee Break (10:45 - 11:15) Session 2 Multihop Wireless Networks (I) (11:15 - 12:30) Lunch (12:30 - 13:30) Session 3 Mobile and Vehicular Ad Hoc Networks (13:30 - 14:30) Panel Session (14:30 - 15:45) Coffee Break (15:45 - 16:15) Session 4 LTE and Cellular Networks (I) (16:15 - 17:45)	Registration Keynote 2 Prof. Dharma Agrawal (8:30 - 9:30) Session 5 Optimization and Performance Evaluation (9:30 - 10:45) Coffee Break (10:45 - 11:15) Session 6 LTE and Multihop Wireless Networks (II) (11:15 - 12:30) Lunch (12:30 - 13:45) Session 7 Delay Tolerant and Opportunistic Networks (13:45 - 15:30) Coffee Break (15:30 - 16:00) Session 8 Algorithms, Scheduling, and Optimization (16:00 - 17:30)	Registration Session 9 Wireless Sensor Networks (II) (9:00 - 10:45) Coffee Break (10:45 - 11:15) Session 10 Tracking, Positioning, and Scheduling (11:15 - 12:30) Lunch (12:30 - 14:00) Session 11 Mobility, Caching, and Compression (14:00 - 15:30) Coffee Break (15:30 - 16:00) Session 12 Network Coding and Data Forwarding (16:00 - 17:30) Closing Remarks	Registration Parallel Events: Q2SWINet and DIVANet MOBIWAC PE-WASUN

MESSAGE FROM THE CHAIRS

The technical program of the 17th ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM), held in 2014 in Montreal, Canada continues to build upon the high standards set by previous editions of the conference.

In 2014, the call for papers attracted 146 registered papers in all areas of mobile and wireless systems of which 128 were accepted into the review process. The submitted papers came from 39 countries. Members of the Technical Program Committee are affiliated to universities and industry in 17 countries spread over five continents, reflecting the truly international profile of MSWiM. The five most commonly listed topics for submissions to MSWiM'14 were:

- Wireless network algorithms and protocols
- Performance evaluation and modeling
- Wireless mesh networks, mobile ad hoc networks, VANET
- Sensor and actuator networks
- Analytical models

The submissions included a large number of papers of very high quality making the selection process difficult and competitive. In the end, we selected 32 regular papers, which corresponds to an acceptance rate of 25%. An additional 10 short papers were recommended for the program owing to their quality and contribution.

Among the 32 regular papers, the three shortlisted as candidates for the best paper award are:

- “*Impact of Node Mobility on Single-Hop Cluster Overlap in Vehicular Ad Hoc Networks*,” Khadige Abboud and Weihua Zhuang
- “*Dirichlet's Principle on Multiclass Multihop Wireless Networks: Minimum Cost Routing Subject*



Ravi Prakash

University of Texas at Dallas, USA
General Co-Chair



Cheng Li

Memorial University of Newfoundland, Canada
Technical Program Committee Co-Chair

to Stability,” Reza Banirazi, Edmond Jonckheere, and Bhaskar Krishnamachari

- “*Wireless Networking Testbed and Emulator (WiNeTestEr)*,” Joseph D. Beshay, Yongjiu Du, Pengda Huang, Niranjan Mahabaleshwar, Brooks McMillin, Ehsan Nourbakhsh, Kiruba S. Subramani, Tianzuo Xi, Bhaskar Banerjee, Joseph D. Camp, Jinghong Chen, Ping Gui, Ravi Prakash, and Dinesh Rajan

The winner among these three papers will be announced at the conference banquet, and will be reported in the proceedings of MSWiM 2015. At this point, we take the opportunity to congratulate the winners of the best paper award for MSWiM 2013:

- “*Understanding the Benefits of Open Access in Femtocell Networks: Stochastic Geometric Analysis in the Uplink*,” authored by Wei Bao and Ben Liang.

Our thanks go to Professor Azzedine Boukerche and the Advisory Board for their vision in guiding MSWiM from workshop to symposium and finally to conference status over the past 15 years. Our thanks also go to Professor Ian Akyildiz and Professor Dharma Agrawal for sharing their experience and vision into the future in the keynote speeches. A special thank you goes to the Technical Program Committee members as well as the additional reviewers for their hard work and contributions in reviewing any judging all the submitted papers.

Finally, we would like to take this opportunity to welcome you to the conference. We hope you find the technical sessions to be intellectually stimulating and rewarding.



Azzedine Boukerche

University of Ottawa, Canada
General Co-Chair



Falko Dressler

University of Paderborn, Germany
Technical Program Committee Co-Chair

TABLE OF CONTENTS

Organizing Committee	4
Organizing Committee (Symposia/Workshops)	5
Keynote Address 1	6
Keynote Address 2	7
MSWiM Conference Technical Program	8
Symposium/Workshop Technical Program	11
Q2SWINET	11
MOBICAC	12
PE-WASUN	13
DIVANET.....	15
Poster/Demo Sessions	16
General Information	17
Conference Venue	17
N ² Women	17
Montreal	17
WI-FI Access	18
Banquet Evening	18
Restaurants.....	18

ORGANIZING COMMITTEE

General Co-Chair:	Ravi Prakash University of Texas at Dallas, USA Azzedine Boukerche University of Ottawa, Canada	Emmanouel Varvarigos (<i>Univ. of Patras & Computer Technology Institute, Greece</i>) Enzo Mingozi (<i>Univ. of Pisa, Italy</i>) Falko Dressler (<i>Univ. of Innsbruck, Austria</i>) Francesco Lo Presti (<i>Universita' di Roma Tor Vergata, Italy</i>) Guillaume Jourjon (<i>NICTA, Australia</i>) Holger Karl (<i>University of Paderborn, Germany</i>) Hongyi Wu (<i>Univ. of Louisiana at Lafayette, USA</i>) Isabel Wagner (<i>University of Hull</i>) Isabelle Guérin Lassous (<i>Univ. Claude Bernard Lyon 1-LIP, France</i>) Jalel Ben-Othman (<i>University of Paris 13, France</i>) James Gross (<i>Royal Institute of Technology (KTH), Sweden</i>) Javier Gozalvez (<i>Universidad Miguel Hernandez de Elche, Spain</i>) Jerzy Konorski (<i>Gdansk Univ. of Technology, Poland</i>) JJ Garcia-Luna-Aceves (<i>University of California at Santa Cruz</i>) Juan-Carlos Cano (<i>Univ. Politecnica de Valencia, Spain</i>) Klaus Wehrle (<i>RWTH Aachen University</i>) Laura Marie Feeney (<i>Swedish Institute of Computer Science, Sweden</i>) Lavy Libman (<i>Università di Bologna, Italy</i>) Lorenzo Donatiello (<i>University of Bologna, Italy</i>) Luciano Bononi (<i>University of Bologna, Italy</i>) Marcelo Dias de Amorim (<i>UPMC Sorbonne Universités, France</i>) Marco Di Felice (<i>University of Bologna, Italy</i>) Marius Portmann (<i>University of Queensland, Australia</i>) Martina Zitterbart (<i>Karlsruhe Institute of Technology</i>) Matthias Wählisch (<i>Freie Universität Berlin</i>) Merkourios Karaliopoulos (<i>National and Kapodistrian University of Athens, Greece</i>) Mineo Takai (<i>Univ. of California, Los Angeles, USA</i>) Mónica Aguilar Igartua (<i>Universitat Politècnica de Catalunya (UPC), Spain</i>) Nils Aschenbruck (<i>University of Osnabrück</i>) Ozgur Akan (<i>Koc University</i>) Raffaele Bruno (<i>IIT-CNR, Italy</i>) Ravi Prakash (<i>University of Texas at Dallas</i>) Renato Lo Cigno (<i>University of Trento, Italy</i>) Roberto Beraldì (<i>"Sapienza" Università di Roma, Italy</i>) Roberto Beraldì (<i>"Sapienza" Università di Roma, Italy</i>) Shengming Jiang (<i>Shanghai Maritime Univ., P.R. China</i>) Sotiris Nikoletseas (<i>University of Patras and Computer Technology Institute, Greece</i>) Stefan Fischer (<i>University of Lübeck</i>) Stephan Eidenbenz (<i>Los Alamos National Laboratory, USA</i>) Tahiry Razafindralambo (<i>Inria Lille - Nord Europe, France</i>) Terence D. Todd (<i>McMaster University, Canada</i>) Torsten Braun (<i>University of Bern</i>) Victor Leung (<i>The University of British Columbia</i>) Vincenzo Mancuso (<i>IMDEA NetworksInstitute, Spain</i>) Violet Syrotiuk (<i>Arizona State University, USA</i>) Yacine Ghamri-Doudane (<i>University of la Rochelle</i>) Zygmunt Haas (<i>Cornell University, USA</i>)
Program Co-Chairs:	Cheng Li Memorial University of Newfoundland, Canada Falko Dressler University of Innsbruck, Austria	
Poster Chair:	Richard Pazzi University of Ontario Institute of Technology, Canada	
Demo/Tools Chair:	Laura Marie Feeney Swedish Institute of Computer Science, Sweden	
Tutorials Co-Chairs:	Weixiao Meng Harbin Institute of Technology, China Luiz Perrone Bucknell University, USA	
Publicity Chair:	Mirela. A. M. Notare Sao Jose Municipal University, Brazil	
Local Arrangements Chair:	Abdelhamid Mammeri University of Ottawa, Canada Dhrubajyoti Goswami Concordia University, Canada	
Program Committee:	Antonio A.F. Loureiro (<i>Federal Univ. of Minas Gerais, Brazil</i>) Abdallah Shami (<i>The University of Western Ontario</i>) Adam Wolisz (<i>TUB</i>) Amy Murphy (<i>Fondazione Bruno Kessler – IRST</i>) Andrea Passarella (<i>IIT-CNR, Italy</i>) Andreas Willig (<i>Univ. of Canterbury, New Zealand</i>) Andrei Gurtov (<i>Aalto University, Finland</i>) Angel Cuevas (<i>Univ. Carlos III de Madrid, DSpain</i>) Anna Förster (<i>Univ. of Applied Sciences of Southern Switzerland</i>) Bjorn Landfeldt (<i>Lund University</i>) Brahim Bensaou (<i>The Hong Kong Univ. of Science and Technology, Hong Kong</i>) Carla-Fabiana Chiasserini (<i>Politecnico di Torino</i>) Carlos Bernardos (<i>Univ. Carlos III de Madrid, DSpain</i>) Chi Chung Cheung (<i>The Hong Kong Polytechnic Univ., Hong Kong</i>) Christoph Sommer (<i>University of Paderborn</i>) Damla Turgut (<i>University of Central Florida, USA</i>) David Eckhoff (<i>University of Erlangen</i>) Dirk Staehle (<i>Docomo Euro-Labs, Germany</i>) Ehab Elmallah (<i>Univ. of Alberta, Canada</i>)	
Steering Committee Chair:	Azzedine Boukerche University of Ottawa, Canada	

ORGANIZING COMMITTEE (symposia/workshops)

MOBIWAC Symposium

General Chair: Wessam Ajib
UQAM Montreal, Canada

Program Chair: Ángel Cuevas
Universidad Carlos III de Madrid,
Spain

Posters/Demo Chair: Ángel Cuevas
Universidad Carlos III de Madrid,
Spain

Web Chair: Gerson Rodríguez de los Santos
Universidad Carlos III de Madrid,
Spain

Publicity Chairs: Antonio M. Ortiz
Institut Mines-Télécom, Télécom
SudParis

DIVANET Symposium

General Chair: Mirela Sechi M. A. Notare
Barddal University, Brazil

Technical Program Chair:
Robson De Grande
DIVA Strategic Research Network,
Canada

Posters and Demos Chair:
Abdelghani Benmaddi
DIVA Research Centre, Canada

Publicity Chair: Salil Kanhere
Univ. of New South Wales, Australia

PE-WASUN Symposium

General Chair: Mónica Aguilar Igartua
Universitat Politècnica de Catalunya,
Spain

Walaa Hamouda
Concordia University Research Chair,
Canada

Program Co-Chairs: Isabelle Guérin Lassous
University Lyon 1/LIP, Lyon, France
Enrico Santagati

Francesca Cuomo
SAPIENZA Università di Roma, Italy

Poster/Demo/Tools Chair:
Enrico Santagati
University at Buffalo, The State
University of New York, USA

Publicity Chair: Carolina Tripp Barba
Universidad Autónoma de Sinaloa,
Mexico

Q2SWINET Symposium

General chair: Peter Mueller
IBM Zurich Research Lab., Switzerland

Program Co-chairs: Luca Foschini
University of Bologna, Italy
Richard Yu
Carleton University, Ottawa

Publicity Co-chairs: Alessandro Pernafini
University of Bologna, Italy

KEYNOTE - ADDRESS 1

Monday, September 22nd (8:15 - 9:30 AM)

Title: Wireless Sensor Networks in Challenged Environments such as Underwater and Underground



Dr. Ian F. Akyildiz

Professor at Georgia Institute of Technology
Atlanta, US

Abstract: Oceanographic data collection, pollution monitoring, offshore exploration, disaster prevention, assisted navigation and tactical surveillance are typical applications for wireless underwater sensor networks. In this talk wireless underwater acoustic communication channel is explored, novel medium access control and routing protocols will be presented. On the other hand, sensor applications in soil media and tunnels have unique communication problems. In particular, the wireless channel peculiarities in the underground make communication problems interesting which will be discussed in this talk. Electromagnetic and Magnetic Induction communication paradigms are explored. Future research challenges will be highlighted in both areas.

Short Bio: I. F. AKYILDIZ received his BS, MS, and PhD degrees in Computer Engineering from the University of Erlangen-Nuernberg, Germany, in 1978, 1981 and 1984, respectively. Currently, he is the Ken Byers Chair Professor with the School of Electrical and Computer Engineering, Georgia Institute of Technology, Director of the Broadband Wireless Networking Laboratory and Chair of the Telecommunications Group. He is an Honorary Professor with School of Electrical Engineering at the Universitat Politecnica de Catalunya, and Director of N3Cat

(NaNoNetworking Center in Catalunya) in Barcelona, Spain, since June 2008. Dr. Akyildiz is also the Finnish Distinguished Professor with Tampere University of Technology, Tampere, Finland since January 2013.

He is the Editor-in-Chief of Computer Networks (Elsevier) Journal since 2000, the founding Editor-in-Chiefs of the Ad Hoc Networks Journal (2003), Physical Communication (PHYCOM) Journal (2008), and Nano Communication Networks (NANOCOMNET) Journal (2010) all published by Elsevier.

Dr. Akyildiz is an IEEE FELLOW (1996) and an ACM FELLOW (1997). He received the 1997 IEEE Leonard G. Abraham Prize award and the 2003 Best Tutorial Paper Award and the Best Paper Awards at IEEE ICC, June 2009 and IEEE Globecom 2010 conferences (all IEEE Communications Society).

Dr. Akyildiz received the 2010 IEEE Communications Society Ad Hoc and Sensor Networks Technical Committee (AHSN TC) Technical Recognition Award with the citation: "For pioneering contributions to wireless sensor networks and wireless mesh networks", in December 2010. He received the 2011 IEEE Computer Society W. Wallace McDowell Award for pioneering contributions to wireless sensor network architectures and communication protocols and the 2011 TUBITAK (Turkish National Science Foundation) Exclusive Award for outstanding contributions to the advancement of scholarship/research at international level.

He is the author of two textbooks on "Wireless Sensor Networks" and on "Wireless Mesh Networks" published by John Wiley & Sons in 2010 and 2007, respectively. Due to Google scholar, his papers received over 62+K citations and his h-index is 82 as of July 2014. His current research interests are in Next Generation Cellular Systems, Nanonetworks, Cognitive Radio Networks and Wireless Sensor Networks.

KEYNOTE - ADDRESS 2

Tuesday, September 23rd (8:30 - 9:30 AM)

Title: Magic of Wireless Sensor Networks



Dr. Dharma P. Agrawal

Ohio Board of Regents Distinguished Professor and Director
University of Cincinnati, US

Abstract: Wireless Sensor Networks (WSNs) have been primarily introduced for defense application, with an objective of monitoring enemy's activities without any human intervention, using a large number of wireless sensor nodes (SNs) and a Base Station (BS) or a sink to collect information from all SNs. In recent years, advances in miniaturization, low-power circuit design, improved low cost, and small-size batteries have made it possible for monitoring physical parameters such as temperature, pressure, velocity, acceleration, stress and strain, fatigue, tilt, light intensity, sound, humidity, gas-sensors, biological, pollution, impurity level detection, nuclear radiation, civil structural sensors, blood pressure, sugar level, white cell count, and many others. The magic of WSNs is also expanded to Wireless Body Area Sensor Network (WBASN) as applied to human health. We introduce an interesting application of WBASN in the field of Sports Medicine by monitoring postural balance and stability of athletes in real time and providing valuable feedback to the coaches so as to minimize athletes' injury and maximize their playing potential. We also consider a fascinating application of continuous, non-invasive wireless home monitoring of patients with movement disorders and Parkinson's disease. We discuss an effective home based monitoring system that could monitor patients in their homes. Final comments are added to provide glimpse of what WSNs can do in numerous areas.

Short Bio: Dharma P. Agrawal is the Ohio Board of Regents Distinguished Professor and the founding director for the Center for Distributed and Mobile Computing in the Department of Electrical Engineering and Computing Systems. He has been a faculty member at the ECE Dept., Carnegie Mellon University (on sabbatical leave), N.C. State University, Raleigh and the Wayne State University. His current research interests include applications of sensor networks in monitoring Parkinson's disease patients and neurosis, applications of sensor networks in monitoring fitness of athletes' personnel wellness, applications of sensor networks in monitoring firefighters physical condition in action, efficient secured communication in Sensor networks, secured group communication in Vehicular

7 Networks, use of Femto cells in LTE technology and interference issues, heterogeneous wireless networks, and resource allocation and security in mesh networks for 4G technology. His recent contribution in the form of a co-authored introductory text book on Introduction to Wireless and Mobile Computing has been widely accepted throughout the world and fourth edition is in press. The book has been has been reprinted both in China and India and translated in to Korean and Chinese languages. His co-authored book on Ad hoc and Sensor Networks, 2nd edition, has been published in spring of 2011. A co-edited book entitled, Encyclopedia on Ad Hoc and Ubiquitous Computing, has been published by the World Scientific and co-authored books entitled Wireless Sensor Networks: Deployment Alternatives and Analytical Modeling, and Innovative Approaches to Spectrum Selection, Sensing, On-Demand Medium Access in Heterogeneous Multihop Networks, and Sharing in Cognitive Radio Networks have being published by Lambert Academic. He is a founding Editorial Board Member, International Journal on Distributed Sensor Networks, International Journal of Ad Hoc and Ubiquitous Computing, International Journal of Ad Hoc & Sensor Wireless Networks and the Journal of Information Assurance and Security. He has served as an editor of the IEEE Computer magazine, and the IEEE Transactions on Computers, the Journal of Parallel and Distributed Systems and the International Journal of High Speed Computing. He has been the Program Chair and General Chair for numerous international conferences and meetings. He has received numerous certificates from the IEEE Computer Society. He was awarded a Third Millennium Medal, by the IEEE for his outstanding contributions. He has published over 657 papers, given 56 different tutorials and extensive training courses in various conferences in USA, and numerous institutions in Taiwan, Korea, Jordan, UAE, Malaysia, and India in the areas of Ad hoc and Sensor Networks and Mesh Networks, including security issues. He has graduated 70 PhDs and 58 MS students. He has been named as an ISI Highly Cited Researcher, is a Fellow of the IEEE, the ACM, the AAAS and the World Innovation Foundation, and a recent recipient of 2008 IEEE CS Harry Goode Award. Recently, in June 2011, he was selected as the best Mentor for Doctoral Students at the University of Cincinnati. Recently, he has been inducted as a charter fellow of the National Academy of Inventors. He has also been elected a Fellow of the International Association of Computer Science and Information Technology, 2013.

MSWiM CONFERENCE TECHNICAL PROGRAM

SUNDAY – SEPTEMBER 21st

[7:30 AM] Registration Opening

[ALL DAY] Concurrent Symposia/Workshops I

MONDAY – SEPTEMBER 22nd

[7:30 AM] Registration Opening

[ALL DAY] Concurrent Symposia/Workshops II

[8:15 AM - 9:30 AM] Welcome Address and Keynote Speech 1

Wireless Sensor Networks in Challenged Environments such as Underwater and Underground

Dr. Ian F. Akyildiz (*Georgia Institute of Technology, US*)

[9:30 AM - 10:45 AM] Session 1: Wireless Sensor Networks I (Chair: Scott H Melvin)

DrySim: Simulation-Aided Deployment-Specific Tailoring of Mote-Class WSN Software

Moritz Strübe (*FAU, University Erlangen-Nuremberg, Germany*); Florain Lukas (*FAU, University Erlangen-Nuremberg, Germany*); Bijun Li (*Technische Universität Braunschweig, Germany*); Rüdiger Kapitza (*TU Braunschweig, Germany*)

Connectivity Analysis of Indoor Wireless Sensor Networks using Realistic Propagation Mode

Gagan Goel (*University of Toronto, Canada*); Scott H Melvin (*University of Toronto & SIRADEL, Canada*); Yves Lostanlen (*SIRADEL & University of Toronto, Canada*); Dimitrios Hatzinakos (*University of Toronto, Canada*)

TR-MAC: An Energy-Efficient MAC Protocol exploiting Transmitted Reference Modulation for Wireless Sensor Networks

Sarwar Morshed (*University of Twente, The Netherlands*); Geert Heijenk (*University of Twente, The Netherlands*)

[10:45 AM - 11:15 AM] Coffee Break

[11:20 AM - 12:30 PM] Session 2: Multihop Wireless Networks I (Chair: TBD)

Dirichlet's Principle on Multiclass Multihop Wireless Networks: Minimum Cost Routing Subject to Stability

Reza Banirazi (*University of Southern California, USA*); Edmond Jonckheere (*USC, USA*); Bhaskar Krishnamachari (*University of Southern California, USA*)

Energy-Efficient Multi-Hop Broadcasting in Low Power and Lossy Networks

Chi-Anh La (*Grenoble Informatics Laboratory, France*); Liviu-Octavian Varga (*STMicroelectronics, France*); Martin Heusse (*Grenoble Informatics Laboratory & Grenoble INP, France*); Andrzej Duda (*Grenoble Institute of Technology, France*)

Wireless Networking Testbed and Emulator (WiNeTestEr)

Joseph D. Beshay (*University of Texas at Dallas, USA*); Yongjiu Du (*Southern Methodist University, USA*); Pengda Huang (*Southern Methodist University, USA*); Niranjan Mahabaleshwar (*University of Texas at Dallas, USA*); Brooks McMillin (*University of Texas at Dallas, USA*); Ehsan Nourbakhsh (*University of Texas at Dallas, USA*); Kiruba S. Subramani (*University of Texas at Dallas, USA*); Tianzuo Xi (*Southern Methodist University, USA*); Bhaskar Banerjee (*University of Texas at Dallas, USA*); Joseph D. Camp (*Southern Methodist University, USA*); Jinghong Chen (*The University of Arizona, USA*); Ping Gui (*Southern Methodist University, USA*); Ravi Prakash (*University of Texas at Dallas, USA*); Dinesh Rajan (*Southern Methodist University, USA*)

[12:30 PM - 1:30 PM] Lunch Break

[1:30 PM -] Poster Session / Demo Session

[1:30 PM - 2:30 PM] Session 3: Mobile and Vehicular Ad Hoc Networks (Chair: Sharief M.A. Oteafy)

Exact Analysis on Network Capacity of Airborne MANETs with Digital Beamforming Antennas

Jun Li (*Communications Research Centre of Canada, Canada*); Chi Zhang (*Carleton University, Canada*); Yifeng Zhou (*Communications Research Centre, Canada*); Simon Perras (*Communications Research Centre Canada, Canada*); Yiqiang Q. Zhao (*Carleton University, Canada*)

Impact of Node Mobility on Single-Hop Cluster Overlap in Vehicular Ad Hoc Networks

Khadige Abboud (*University of Waterloo & MASc, Canada*); Weihua Zhuang (*University of Waterloo, Canada*)

[2:30 PM - 3:45 PM] Panel Session (Chair: Azzedine Boukerche)

Wireless Sensor Networks: Lessons Learned from the Past, Future Challenges for the Next Research Generation of WSN, and New Research

Panelists:

Ian F. Akyildiz (*Georgia Institute of Technology, US*);

Falko Dressler (*University of Paderborn, Germany*);

Hossam Hassanein (*Queen's University, Canada*);

Hussein Mouftah (*University of Ottawa, Canada*)

[3:45 PM - 4:15 PM] Coffee Break

[4:15 PM - 5:45 PM] Session 4: LTE and Cellular

Networks I (Chair: Abdelhamid Mammeri)

Semi-Static Interference Coordination in OFDMA/LTE Networks: Evaluation of Practical Aspects

Donald Parruca (*RWTH Aachen University, Germany*); Fahad Aizaz (*RWTH-Aachen University, Germany*); Soamsiri Chantaraskul (*The Sirindhorn International Thai-German Graduate School of Engineering (TGGG), Thailand*); James Gross (*Royal Institute of Technology (KTH), Sweden*)

Handoff Rate Analysis in Heterogeneous Cellular Networks: a Stochastic Geometric Approach

Wei Bao (*University of Toronto, Canada*); Ben Liang (*University of Toronto, Canada*)

Towards Mobility-Aware Predictive Radio Access: Modeling, Simulation, and Evaluation in LTE Networks

Hatem Abou-zeid (*Queen's University, Canada*); Hossam S. Hassanein (*Queen's University, Canada*); Ramy Atawia (*Queen's University, Canada*)

Mobile Device Video Caching to Improve Video QoE and Cellular Network Capacity

Hasti Ahlelghah (*University of California San Diego, USA*); Sujit Dey (*University of California, San Diego, USA*)

TUESDAY, SEPTEMBER 23rd

[7:30 AM] Registration Opening

[8:30 AM - 9:30 AM] Keynote Speech 2

Magic of Wireless Sensor Networks

Prof. Dharma Agrawal (*OBR Distinguished Professor, University of Cincinnati, US*)

[9:10 AM - 10:40 AM] Session 5: Optimization and Performance Evaluation (Chair: TBD)

Multi-Channel Slotted Aloha Optimization for Machine-Type Communication

Osama Arouk (*University of Rennes 1 & IRISA / INRIA Rennes, France*); Adlen Ksentini (*University of Rennes 1 / IRISA Lab, France*)

On optimal relay placement for improved performance in non-coverage limited scenarios

Mikhail Zolotukhin (*University of Jyväskylä, Finland*); Alexander Sayenko (*Nokia Siemens Networks, Finland*); Timo Hämäläinen (*University of Jyväskylä, Finland*)

Performance of simple polling MAC with wireless re-charging in the presence of noise

Jelena Mišić (*Ryerson University, Canada*); Mohammad Khan (*Ryerson University, Canada*); Vojislav B. Mišić (*Ryerson University, Canada*)

[10:45 AM - 11:15 AM] Coffee Break

[11:15 AM - 12:30 PM] Session 6: LTE and Multihop Wireless Networks II (Chair: TBD)

Regret-based Learning for Medium Access in LTE Femtocell Networks

Ying Wang (*The Hong Kong University of Science and Technology, Hong Kong*); Jason Min Wang (*The Hong Kong University of Science and Technology, Hong Kong*); Brahim Bensaou (*The Hong Kong University of Science and Technology, Hong Kong*)

User Satisfaction Based Joint User Selection and Beamforming in TD-LTE-A Downlink

Xuanli Wu (*Communication Research Center, Harbin Institute of Technology, P.R. China*); Nannan Fu (*Harbin Institute of Technology, P.R. China*); Di Lin (*McGill University, Canada*); Wanjun Zhao (*Harbin Institute of Technology, P.R. China*)

Modeling of IEEE 802.11 Multi-hop Wireless Chains with Hidden Nodes

Thiago Abreu (*Université Claude Bernard Lyon 1, France*); Bruno Baynat (*Université Pierre et Marie Curie-LIP6, France*); Thomas Begin (*Université de Lyon 1, France*); Isabelle Guérin Lassous (*Université Claude Bernard Lyon 1 - LIP, France*); Huu-Nghi Nguyen (*Ens de Lyon - LIP, France*)

Interference-Aware Mesh Multicast for Wireless Multihop Networks

Daniel Lertpratchya (*Georgia Institute of Technology, USA*); Douglas Blough (*Georgia Institute of Technology, USA*); George Riley (*Georgia Institute of Technology, USA*)

[12:30 PM - 1:45 PM] Lunch Break

[12:30 PM - 1:45 PM] Networking Networking Women (N² Women)

[1:45 PM -] Poster Session / Demo Session

[1:45 PM - 3:30 PM] Session 7: Delay Tolerant and Opportunistic Networks (Chair: TBD)

Analysis of Social Structure and Routing in Human based Delay Tolerant Network

Suvadip Batabyal (*Jadavpur University, India*); Parama Bhaumik (*Jadavpur University, India*)

Efficient Solutions for the Authenticated Fragmentation Problem in Delay- and Disruption-Tolerant Networks

Michael Noisternig (*TU Darmstadt, Germany*); Matthias Hollick (*Technische Universität Darmstadt & Secure Mobile Networking Lab, Center for Advanced Security Research Darmstadt, Germany*)

Searching a Needle in (Linear) Opportunistic Networks

Esa Hyttiä (*Aalto University, Finland*); Suzan Bayhan (*University of Helsinki, Finland*); Joerg Ott (*Aalto University & Helsinki Institute of Information Technology, Finland*); Jussi Kangasharju (*University of Helsinki, Finland*)

Socially Inspired Data Dissemination for Vehicular Ad Hoc Networks

Felipe Cunha (*Federal University of Minas Gerais, Brazil*); Guilherme Maia (*Federal University of Minas Gerais, Brazil*); Aline Carneiro Viana (*INRIA, France*); Raquel A. F. Mini (*PUC Minas, Brazil*); Leandro Aparecido Villas (*UNICAMP, Brazil*); Antonio A.F. Loureiro (*Federal University of Minas Gerais, Brazil*)

Duty cycling in opportunistic networks: intercontact times and energy-delay tradeoff

Elisabetta Biondi (*IIT-CNR, Italy*); Chiara Boldrini (*IIT-CNR, Italy*); Andrea Passarella (*IIT-CNR, Italy*); Marco Conti (*IIT-CNR, Italy*)

[3:30 PM - 4:00 PM] Coffee Break

[4:00 PM – 5:30 PM] Session 8: Algorithms, Scheduling, and Optimization (Chair: TBD)

Entropy as a New Metric for Denial of Service Attack Detection in Vehicular Ad-hoc Networks

Mohamed Nidhal Mejri (*University of Paris 13 & Paris, France*); Jalel Ben-Othman (*University of Paris 13, France*)

Deterministic Distributed Rendezvous Algorithms for Multi-Radio Cognitive Radio Networks

Guyue Li (*Institute of Interdisciplinary Information Sciences, Tsinghua University, P.R. China*); Zhaoquan Gu (*Tsinghua University, P.R. China*); Xiao Lin (*Tsinghua University, P.R. China*)

China); Haosen Pu (Tsinghua University, P.R. China); Qiang-Sheng Hua (Tsinghua University, P.R. China)

A Semi-Persistent Scheduling Scheme for Videotelephony Traffics in the Uplink of LTE Networks

Jean Thierry Stephen Avocanh (L2TI Laboratory, University of Paris 13 Nord, France); Marwen Abdennabi (L2TI Laboratory, University of Paris Nord, France); Jalel Ben-Othman (University of Paris 13, France); Giuseppe Piro (Politecnico di Bari, Italy)

Channel Capacity Optimization for an integrated Wi-Fi and Free-space Optic Communication System (WiFiFO)

Qiwei Wang (Oregon State University, USA); Thinh Nguyen (Oregon State, USA); Alan Wang (Oregon State University, USA)

WEDNESDAY – SEPTEMBER 24th

[7:30 AM] Registration Opening

[ALL DAY] Concurrent Symposia/Workshops III

[9:00 AM - 10:45 AM] Session 9: Wireless Sensor Networks II (Chair: Khadige Abboud)

A Simple Method for the Deployment of Wireless Sensors to Ensure Full Coverage of an Irregular Area with Obstacles

Ines Khoufi (INRIA, France); Pascale Minet (INRIA, France); Anis Laouiti (TELECOM SudParis, France); Erwan Livolant (INRIA, France)

Organic Wireless Sensor Networks: A resilient paradigm for ubiquitous sensing

Sharief M.A. Oteafy (Queen's University, Canada); Hossam S. Hassanein (Queen's University, Canada)

Transmission Power Control-based Opportunistic Routing for Wireless Sensor Networks

Rodolfo W. L. Coutinho (Federal University of Minas Gerais, Brazil); Azzedine Boukerche (University of Ottawa, Canada); Luiz F. M. Vieira (Universidade Federal de Minas Gerais, Brazil); Antonio A.F. Loureiro (Federal University of Minas Gerais, Brazil)

Imputing Missing Values in Sensor Networks using Sparse Data Representations

Liang Ze Wong (Institute for Infocomm Research, Singapore); Huiling Chen (Institute for Infocomm Research, Singapore); Daniel C. Chen (Massachusetts Institute of Technology, Singapore); Shaowei Lin (Institute for Infocomm Research, Singapore)

[10:45 AM - 11:15 AM] Coffee Break

[11:15 AM - 12:30 PM] Session 10: Tracking, Positioning, and Scheduling (Chair: Dwight Makaroff)

Lane Detection and tracking System Based on the MSER algorithm, Hough Transform and Kalman Filter

Abdelhamid Mamperi (University of Ottawa, Canada); Azzedine Boukerche (University of Ottawa, Canada); Guangqian Lu (University of Ottawa, Canada)

Incorporating User Motion Information for Indoor Smartphone Positioning in Sparse Wi-Fi Environments

Wasiq Waqar (Memorial University of Newfoundland, Canada); Yuanzhu Chen (Memorial University of Newfoundland, Canada); Andrew Vardy (Memorial University of Newfoundland, Canada)

Wireless Scheduling Algorithms in Complex Environments

Helga Gudmundsdottir (Reykjavik University, Iceland); Eyjólfur I. Ásgeirsson (Reykjavik University, Iceland); Marijke Bodlaender (Reykjavik University, Iceland); Joe Foley (Reykjavik University, Iceland); Magnús M. Halldórsson (Reykjavik University, Iceland); Ymir Vigfusson (Reykjavik University, Iceland)

[12:30 PM - 2:00 PM] Lunch Break

[2:00 PM - 3:00 PM] Session 11: Mobility, Caching, and Compression (Chair: TBD)

Understanding the Interactions of Handover-Related Self-Organization Schemes

Kais Elmurtadi Suleiman (University of Waterloo, Canada); Abd-Elhamid M. Taha (Alfaisal University, Saudi Arabia); Hossam S. Hassanein (Queen's University, Canada)

FGPC: Fine-Grained Popularity-based Caching Design for Content Centric Networking

Dung Ong Mau (Huazhong Univ. of Science & Technology, P.R. China); Min Chen (Huazhong Univ. of Science and Technology, P.R. China); Tarik Taleb (NEC Europe Ltd., Germany); Xiaofei Wang (The University of British Columbia, Canada); Victor CM Leung (The University of British Columbia, Canada)

Application Caching for Cloud-Sensor Systems

Yi Xu (University of Florida, USA); Abdelsalam Helal (University of Florida, USA)

Efficient Data Compression with Error Bound Guarantee in Wireless Sensor Networks

Mohammad Abu Alsheikh (Nanyang Technological University, Singapore); Puay Kai Poh (NUS, Singapore); Shaowei Lin (Institute for Infocomm Research, Singapore); Hwee Pink Tan (Institute for Infocomm Research, Singapore); Dusit Niyato (Nanyang Technological University, Singapore)

[3:30 PM - 4:00 PM] Coffee Break

[4:00 PM – 5:30 PM] Session 12: Network Coding and Data Forwarding (Chair: TBD)

On Control of Inter-session Network Coding in Delay-Tolerant Mobile Social Networks

Neetya Shrestha (I3S - Université Nice Sophia Antipolis/CNRS UMR 7271, France); Lucile Sassatelli (I3S - Université Nice Sophia Antipolis/CNRS UMR 7271, France)

Space-Time Efficient Wireless Network Coding

Yan Yan (University of Chinese Academy of Sciences, P.R. China); Baoxian Zhang (University of the Chinese Academy of Sciences, P.R. China); Zheng Yao (Graduate University of the Chinese Academy of Sciences, P.R. China)

Community-Based Forwarding for Low-Capacity Pocket Switched Networks

Khadija Rasul (University of Saskatchewan, Canada); Shaiful Chowdhury (University of Saskatchewan, Canada); Dwight Makaroff (University of Saskatchewan, Canada); Kevin G Stanley (University of Saskatchewan, Canada)

THURSDAY – SEPTEMBER 25th

[7:30 AM] Registration Opening

[ALL DAY] Concurrent Symposia/Workshops III

SYMPOSIUM/WORKSHOP TECHNICAL PROGRAM

Q2SWINet SYMPOSIUM

SUNDAY – SEPTEMBER 21st

[8:00 AM - 8:30 AM] Registration

[8:30 AM - 10:30 AM] Session 1: QoS and QoE for Wireless Networks and Systems

Quality of Experience-Enabled Social Networks

Ahmed Abouzeid (*Concordia University, Canada*); Mohammadmajid Hormati (*Concordia University, Canada*); Roch Glitho (*Concordia University, Canada*); Ferhat Khendek (*Concordia University, Canada*)

QoE-based Performance Evaluation of Video Transmission using the BATMAN Routing Protocol

Ramon Sanchez Iborra (*Technical University of Cartagena, Spain*); Maria-Dolores Cano (*Technical University of Cartagena, Spain*)

Quality of Service Differentiation for Smart Grid Neighbor Area Networks through Multiple RPL Instances

Gowdemy Rajalingham (*McGill University, Canada*); Yue Gao (*Mcgill University, Canada*); Quang-Dung Ho (*McGill University, Canada*); Tho Le-Ngoc (*McGill University, Canada*)

Security and QoS Tradeoff Recommendation System (SQT-RS) for Dynamic Assessing CPRM-based Systems

Ana Nieto (*University of Malaga, Spain*); Javier Lopez-Munoz (*University of Malaga, Spain*)

[10:30 AM - 11:00 AM] Coffee Break

[11:00 AM - 12:30 PM] Session 2: Privacy, anonymity and authentication

HiveSign: Dynamic Message Signatures for Resource-Constrained Wireless Networks

Raghav V Sampangi (*Dalhousie University, Canada*); Srinivas Sampalli (*Dalhousie University, Canada*)

Classification of Technological Privacy Techniques for LTE-based Public Safety Networks

Hamidreza Ghafghazi (*University of Ottawa, Canada*); Amr El Mougy (*Queen's University, Canada*); Hussein Mouftah (*University of Ottawa, Canada*); Carlisle Adams (*University of Ottawa, Canada*)

Data Partitioning: An Approach to Preserving Data Privacy in Computation Offload in Pervasive Computing Systems

Mohammad Al-Mutawa (*University of Colorado, USA*); Shivakant Mishra (*University of Colorado, USA*)

[12:30 PM - 1:30 PM] Lunch Break

[1:30 PM - 3:00 PM] Session 3: Security in Wireless Networks I

Patrolling Wireless Sensor Networks: Randomized Intrusion Detection

Michael Riecker (*Technische Universität Darmstadt, Germany*); Dingwen Yuan (*Technische Universität Darmstadt, Germany*); Rachid El Bansarkhani (*Technische Universität Darmstadt, Germany*); Matthias Hollick (*Technische Universität Darmstadt, Germany*)

MAC-TCP Cross-Layer attack and its Defense in Cognitive Radio Networks

Johnson Thomas (*Oklahoma State University, USA*)

Trust-aware Opportunistic Routing Protocol for Wireless Networks

Mahmood Salehi (*University of Ottawa, Canada*); Azzedine Boukerche (*University of Ottawa, Canada*)

[3:00 PM - 3:30 PM] Coffee Break

[3:30 PM - 5:00 PM] Session 4: Security in Wireless Networks II

Undesired Relatives: Protection Mechanisms Against The Evil Twin Attack in IEEE 802.11

Fabian Lanze (*University of Luxembourg, Luxembourg*); Andriy Panchenko (*University of Luxembourg, Luxembourg*); Ignacio Ponce-Alcaide (*University of Málaga, Spain*); Thomas Engel (*University of Luxembourg, Luxembourg*)

Secure IPsec based Offload Architectures for Mobile Data: Architecture Description and Performance Evaluation

Daniel Migault (*Orange Labs, France*); Daniel Palomares (*Orange Labs, France*); Hendrik Hendrik (*Orange, France*); Maryline Laurent (*Institut Mines-Télécom, Télécom SudParis, France*)

Design of a Trust Security Model for Smart Meters in an Urban Power Grid Network

Nasser-Eddine Rikli (*King Saud University, Saudi Arabia*); Aljawharah Alnasser (*King Saud University, Saudi Arabia*)

MONDAY – SEPTEMBER 22nd

[8:15 AM - 8:30 AM] Opening

[8:30 AM - 9:30 AM] Keynote Speech

[9:30 AM - 10:00 AM] Coffee Break

[10:00 AM - 12:30 PM] MSWiM Technical Sessions

[1:30 PM - 1:30 PM] Lunch Break

[1:30 PM - 3:30 PM] Session 5: Optimization Issues in Networks

Flow-level modeling and optimization of intercell coordination with dynamic TDD

Prajwal Osti (*Aalto University, Finland*); Samuli Aalto (*Aalto University, Finland*); Pasi Lassila (*Helsinki University of Technology, Finland*)

Storms in Mobile Networks

Gokce Gorbil (*Imperial College London, United Kingdom*); Omer H. Abdelrahman (*Imperial College London, United Kingdom*); Erol Gelenbe (*Imperial College London, United Kingdom*)

Elastic Virtual Private Cloud

Daniel Palomares (*Orange Labs, France*); Daniel Migault (*Orange Labs, France*); Hendrik Hendrik (*Orange, France*); Maryline Laurent (*Institut Mines-Télécom, Télécom SudParis, France*)

LAN Traffic Forecasting-Using a Multi Layer Perceptron Model

Octavio Salcedo Parra (*Universidad Distrital Francisco Jose de Caldas, Colombia*); Gustavo Garcia (*Universidad Distrital Francisco Jose de Caldas, Colombia*); Brayan Reyes (*Intelligent Internet Research Group, Colombia*)

[3:30 PM - 3:45 PM] Closing Remarks

DIVANET SYMPOSIUM

SUNDAY – SEPTEMBER 21st

[8:00 AM] Registration Opens

[8:00 AM - 8:30 AM] Welcome Message from GC and TPC Chairs

[8:30 AM - 10:15 AM] Smart Cars and Social Network

Swarm-based Traffic Lights Policy Selection

Riccardo Belletti (*University of Bologna, Italy*); Alessio Bonfietti (*University of Bologna, Italy*); Luca Foschini (*University of Bologna, Italy*); Michela Milano (*University of Bologna, Italy*); Daniel Krajzewicz (*German Aerospace Center (DLR), Germany*)

Keypoint-based Binocular Distance Measurement System for Smart Vehicles

Abdelhamid Mammeri (*University of Ottawa, Canada*); Azeddine Boukerche (*University of Ottawa, Canada*); Mingchang Zhao (*University of Ottawa, Canada*)

Vehicular Social Systems: An Overview and a Performance Case Study

Saida Maaroufi (*Ecole Polytechnique de Montréal, Canada*); Samuel Pierre (*Ecole Polytechnique de Montréal, Canada*)

Power Efficient High-Rate Data Service Provisioning in Vehicular Networks

Javad Hajipour (*The University of British Columbia, Canada*); Ghasem Naddafzadeh Shirazi (*University of British Columbia, Canada*); Peyman TalebiFard (*The University of British Columbia, Canada*); Victor CM Leung (*The University of British Columbia, Canada*)

[10:15 AM - 10:40 AM] Coffee Break

[10:40 AM - 12:30 PM] Protocols and Architecture Design

Implementing and Evaluating V2X Protocols over iTETRIS: Traffic Estimation in the COLOMBO Project

Paolo Bellavista (*University of Bologna, Italy*); Federico Caselli (*University of Bologna, Italy*); Luca Foschini (*University of Bologna, Italy*)

A Prediction Based Clustering Algorithm for Target Tracking in Vehicular Ad-Hoc Networks

Sanaz Khakpour (*UOIT, Canada*); Richard W. Pazzi (*University of Ontario Institute of Technology, Canada*); Khalil El-Khatib (*University of Ontario Institute of Technology, Canada*)

CAMs Transmission Rate Adaptation for vehicular safety application in LTE

Hosein Soleimani (*University of Ottawa, Canada*); Azeddine Boukerche (*University of Ottawa, Canada*)

Big Data Architecture Evolution: 2014 and Beyond

Atif Mohamad (*The University of North Dakota, Canada*); Hamid McHeick (*University of Quebec at Chicoutimi, Canada*); Emanuel Grant (*University of North Dakota, USA*)

[12:30 PM - 2:00 PM] Lunch Break

[2:00 PM - 4:30 PM] Cloud and VANET Content Delivery

Sensor Cloud Computing for Vehicular Applications: from Analysis to Practical Implementation

Zhengguo Sheng (*The University of British Columbia, Canada*); Xiping Hu (*The University of British Columbia, Canada*); Peyman TalebiFard (*The University of British Columbia, Canada*); Victor CM Leung (*The University of British Columbia, Canada*); Ruifeng Chen (*Beijing Jiaotong University, P.R. China*); Yingjie Zhou (*Sichuan University & Columbia University, P.R. China*)

Evaluating VANET Information Retrieval Context Aware Systems using the Average Distance Measure ADM

Lobna Nassar (*University of Waterloo, Canada*); Mohamed Kamel (*Pattern Analysis and Machine Intelligence, University of Waterloo, Canada*); Fakhri Karray (*University of Waterloo, Canada*)

Adapting to the Driving Context in Congestion Control for Vehicular Networks

Le Zhang (*University of Toronto, Canada*); Shahrokh Valaei (*University of Toronto, Canada*)

Towards a Service Centric Contextualized Vehicular Cloud

Xiping Hu (*The University of British Columbia, Canada*); Lei Wang (*University of Twente, The Netherlands*); Zhengguo Sheng (*The University of British Columbia, Canada*); Peyman TalebiFard (*The University of British Columbia, Canada*); Li Zhou (*National University of Defense Technology, P.R. China*); Victor CM Leung (*The University of British Columbia, Canada*)

MONDAY – SEPTEMBER 22nd

[8:00 AM] Registration Opens

[8:30 AM - 10:00 AM] Keynote Speech

Wireless Sensor Networks in Challenged Environments such as Underwater and Underground

Prof. Ian Akyildiz (*Georgia Institute of Technology, Atlanta, US*)

[10:30 AM - 12:30 PM] Safety and Security Issues

Improved Multi-Channel operation for Safety Messages Dissemination in Vehicular Networks

Meysam Azizian (*Université de Sherbrooke, Quebec, Canada*); Eugene David Ngangue Ndih (*Université de Sherbrooke, Canada*); Soumaya Cherkaoui (*Université de Sherbrooke, Canada*)

A Model for Situation and Threat/Impact Assessment in Vehicular Ad-hoc Networks

Keyvan Golestan (*University of Waterloo, Canada*); Ridha Soua (*University of Waterloo, Canada*); Fakhri Karray (*University of Waterloo, Canada*); Mohamed Kamel (*Pattern Analysis and Machine Intelligence, University of Waterloo, Canada*)

Effective Public Key Infrastructure for Vehicle-to-Grid Network

Binod Vaidya (*University of Ottawa, Canada*); Dimitrios Makrakis (*University of Ottawa, Canada*); Hussein T Mouftah (*University of Ottawa, Canada*)

Trust Based Security Enhancements for Vehicular Ad hoc Networks

Zhexiong Wei (*Carleton University, Canada*); F. Richard Yu (*Carleton University, Canada*); Azzedine Boukerche (*University of Ottawa, Canada*)

[12:30 PM - 1:30 PM] Lunch Break

[1:30 PM - 3:00 PM] Poster/Discussion Session

[3:00 PM - 5:30 PM] Lunch Break

Propagation Modeling and MAC-Layer Performance in EM-Based Underwater Sensor Networks

Jun Li (*Communications Research Centre of Canada, Canada*); Mylene Toulgoat (*Communications Research Centre, Canada*); Mathieu Deziel (*Communications Research Centre - Government of Canada, Canada*); F. Richard Yu (*Carleton University, Canada*); Simon Perrin (*Communications Research Centre Canada, Canada*)

An Enhanced Security Scheme for Query State Inference in EPCglobal Discovery Services

Abdelmounaim Dahbi (*University of Ottawa, Canada*); Mazen George Khair (*The University of Ottawa, Canada*); Hussein T Mouftah (*University of Ottawa, Canada*)

Content replication and delivery in vehicular networks

Fabrício Aguiar Silva (*Federal University of Minas Gerais, Brazil*); Azzedine Boukerche (*University of Ottawa, Canada*); Thais R. M. Braga Silva (*Federal University of Minas Gerais & Federal University of Viçosa - Florestal Campus, Brazil*); Linnyer Beatrys Ruiz (*State University of Maringá & INCT NAMITEC, Brazil*); Eduardo Cerqueira (*Federal University of Pará, Brazil*); Antonio A.F. Loureiro (*Federal University of Minas Gerais, Brazil*)

Wireless Channel Resource Allocation to Support Real-Time Transportation Applications

Sathish Gopalakrishnan (*University of British Columbia, Canada*)

[5:30 PM - 6:00 PM] Closing Remarks

MOBIWAC SYMPOSIUM

WEDNESDAY – SEPTEMBER 24th

[9:30 AM - 10:00 AM] Symposium Opening

[10:00 AM - 12:00 AM] Session I: Internet of Things, Vehicular Networks and Cloud

Non-Intrusive User Identity Provisioning in the Internet of Things

Ameera Al-Karkhi (*Ryerson University, Canada*); Adil Al-Yasiri (*University of Salford, United Kingdom*); Muhammad Jaseemuddin (*Ryerson University, Canada*)

Decreasing Greenhouse Emissions Through an Intelligent Traffic Information System Based on Inter-Vehicle Communication

Allan Mariano de Souza (*UNICAMP, Brazil*); Azzedine Boukerche (*University of Ottawa, Canada*); Guilherme Maia (*Federal University of Minas Gerais, Brazil*); Rodolfo Meneguette (*Universidade Estadual de Campinas, Brazil*); Antonio A.F. Loureiro (*Federal University of Minas Gerais, Brazil*); Leandro Aparecido Villas (*UNICAMP, Brazil*)

Building and Programming Ubiquitous Social Devices

Niko Mäkitalo (*Tampere University of Technology, Finland*)

Virtualized infrastructure for video game applications in Cloud environments

Mikael Hassam (*ETS, Canada*); Nadjia Kara (*École de Technologie Supérieure, Canada*); Fatna Belqasmi (*Concordia University, Canada*); Roch Glitho (*Concordia University, Canada*)

[12:00 PM - 2:00 PM] Lunch Break

[2:00 PM - 3:30 PM] Session 2: DEMO & POSTERS (jointly with MSWiM)

Building a Secure and Feature-rich Mobile Mapping Service App Using HTML5: Challenges and Best Practices

Rajasekar Karthik (*Oak Ridge National Laboratory, USA*), Dilip R. Patlolla (*Oak Ridge National Laboratory, USA*), Alexandre Sorokine (*Oak Ridge National Laboratory, USA*), Devin A. White (*Oak Ridge National Laboratory, USA*), Aaron T. Myers (*Oak Ridge National Laboratory, USA*)

THURSDAY – SEPTEMBER 25th

[9:30 AM - 11:30 AM] Session 3: Cellular Networks and WiFi

Inter-Cell Handoff Performance Improvement in LTE-A Multi-hop Relay Networks

Abderrahmane Benmimoune (*University of Quebec (ETS), Canada*); Fawaz Khasawneh (*Ecole de Technologie Supérieure (ETS) - University of Quebec, Canada*); Kadoc Michel (*Ecole de technologie supérieure, Canada*); Bo Rong (*Communications Research Center Canada, Canada*); Sun Songlin (*Beijing University of Posts and Telecommunications, P.R. China*)

Dynamic Clustering in WiFi Direct Technology

Urbano Menegato (*Universidade Federal de Ouro Preto / DECOM, Brazil*); Leonardo Cimino (*Universidade Federal de Ouro Preto, Brazil*); Fernando Silva (*Universidade Federal de Ouro Preto, Brazil*); Saul Delabrida (*Universidade Federal de Ouro Preto, Brazil*); Joubert Lima (*Universidade Federal de Ouro Preto, Brazil*); Ricardo Augusto Rabelo Oliveira (*UFOP/DECOM, Brazil*)

IP Packet Distribution on Wireless Access Route Combining IEEE802.11/802.16 Links for Improvement of Application Performance

Yasuhsia Takizawa (*Kansai University, Japan*)

Dynamic and Distributed Inter-Cell Coordination based Scheduling for Interference Avoidance

Jihene Ben Abderrazak (*Assistant at ESPRIT, Tunisia*); Hichem Besbes (*Ecole Supérieure de Communications de Tunis, Sup'Com, University of Carthage, TUNISIA, Tunisia*)

[11:30 AM - 1:00 PM] Lunch Break

[1:00 PM - 3:00 PM] Session 4: Wireless Sensor Networks

A Hole Detection Scheme Based on Polygonal Cycles for the Irregular Radio Range in WSN

Imen Arfaoui (*Communication Networks and Security Research Lab (CNAS). SUP'COM, Tunisia*); Ramzi Bellazreg (*Communication Networks and Security Research Lab. SUP'COM, Tunisia*); Noureddine Boudriga (*Communication Networks and Security Research Lab., University of Carthage, Tunisia*)

On Target Coverage in Mobile Visual Sensor Networks

Azin Neishaboori (*Qatar University, USA*); Ahmed M Saeed (*Georgia Institute of Technology, USA*); Khaled A. Harras (*Carnegie Mellon University, USA*); Amr Mohamed (*Qatar University, Qatar*)

Efficient mobile sink-based data gathering in wireless sensor networks with guaranteed delay

Charalampos Konstantopoulos (*University of Piraeus, Greece*); Grammati Pantziou (*Technological Educational Institution of Athens, Greece*); Nikolaos Vathis (*National Technical University of Athens, Greece*); Vasileios Nakos (*National Technical University of Athens, Greece*); Damianos Gavalas (*University of the Aegean, Greece*)

On-demand Key Distribution for Body Area Networks for Emergency Case

Haifa Alyami (*University of Waterloo, Canada*); Jun Feng (*University of Waterloo, Canada*); Allaa R. Hilal (*University of Waterloo, Canada*); Otman Basir (*University of Waterloo, Canada*)

[3:00 PM - 3:30 PM] Coffee Break

[3:30 PM - 5:10 PM] Session 5: Heterogeneous Wireless Networks

QoS-based Joint Resource Allocation with Link Adaptation for SC-FDMA Uplink in Heterogeneous Networks

Rima Hatoum (*Laboratoire Informatique de Paris6-LIP6/Université de Pierre et Marie Curie UPMC, France*); Abbas Hatoum (*LIP6/Université de Pierre et Marie Curie UPMC, France*); Alaa Ghaith (*Faculty of Sciences I, Lebanese University, Lebanon*); Guy Pujolle (*University Pierre et Marie Curie - Paris 6, France*)

Resource-Aware Cooperative Caching on Mobile Ad-hoc Peer to Peer Networks

Ameera Al-Karkhi (*Ryerson University, Canada*); Muhammad Jaseemuddin (*Ryerson University, Canada*)

An SOA based ubiquitous computing system design Framework

Djilali Idoughi (*University A. Mira of Bejaia, Algeria*); Aicha Azoui (*Applied Mathematics Laboratory – LMA, Algeria*)

Extreme Throughput Multicast in Multi-user Diversity Wireless Networks

Asma Ben Hassouna (*Cristal Lab, ENSI, University of Manouba, Tunisia*); Hend Koubaa (*ENET'COM, Sfax University, Tunisia*)

[4:50 PM - 5:00 PM] Closing Remarks

PE-WASUN SYMPOSIUM

WEDNESDAY – SEPTEMBER 24th

[8:00 AM] Registration Opening

[ALL Day] Invited Talk and MSWiM Technical Sessions

THURSDAY – SEPTEMBER 25th

[8:00 AM] Registration Opening

[8:15 AM - 8:30 AM] Opening Ceremony

[8:30 AM - 10:30 AM] Session 1: Network Architectures, Smart City and QoS

How to Choose the Relevant MAC protocol for Wireless Smart Parking Urban Networks?

Trista Lin (*INRIA - INSA Lyon, France*); Herve Rivano (*INRIA, France*); Frederic Le Mouel (*INSA Lyon, France*)

Mobility-based Opportunistic Routing for Mobile Ad-Hoc Networks

Mohammad Tahooni (*University of Ottawa, Canada*); Amir Darehshoorzadeh (*University of Ottawa, Canada*); Azzedine Boukerche (*University of Ottawa, Canada*)

Studying Traffic Conditions by Analyzing Foursquare and Instagram Data

Anna Izabel Ribeiro (*Federal University of Minas Gerais, Brazil*); Thiago Silva (*Federal University of Minas Gerais, Brazil*); Fátima Figueiredo (*Pontifical Catholic University of Minas Gerais, Brazil*); Antonio Loureiro (*Federal University of Minas Gerais, Brazil*)

QoS and network performance estimation in heterogeneous cellular networks validated by real-field measurements

Miodrag Jovanovic (*Orange Labs & INRIA, France*); Mohamed Karray (*Orange Labs, France*); Bartłomiej Blaszczyk (*INRIA & ENS, France*)

[10:30 AM - 11:00 AM] Coffee Break

[11:00 AM - 12:30 PM] Session 2: Wireless Ad Hoc Networks

A distributed backbone-based framework for live video sharing in VANETs

Mario De Felice (*University of Roma Sapienza, Italy*); Eduardo Cerqueira (*Federal University of Para, Brazil*); Adalberto Melo (*Federal University of Para, Brazil*); Mario Gerla (*University of California Los Angeles, USA*); Francesca Cuomo (*University of Roma Sapienza, Italy*); Andrea Baiocchi (*University of Roma Sapienza, Italy*)

A Predictive Algorithm for Mitigate Swarming Bees through Proactive Monitoring via Wireless Sensor Networks

Douglas Kridi (*Federal University of Ceará, Brazil*); Carlos Giovanni Carvalho (*State University of Piauí, Brazil*); Danielo Gomes (*Federal University of Ceará, Brazil*)

Towards a Simulation Framework for Paraglider Networks

Juergen Eckert (*University of Erlangen, Germany*); Christoph Sommer (*University of Paderborn, Germany*); David Eckhoff (*University of Erlangen, Germany*)

Efficient Coverage for Grid-Based Mobile Wireless Sensor Networks

Valeria Loscri (*Inria Lille - Nord Europe, France*); Enrico Natalizio (*Université de Technologie de Compiègne, France*); Francesca Guerriero (*University of Calabria, Italy*); Nathalie Mitton (*Inria Lille - Nord Europe, France*)

[12:30 PM - 1:45 PM] Lunch Break

[1:45 PM - 3:15 PM] Session 3: Vehicular Ad Hoc Networks

Bandwidth-Efficient Techniques for Information Dissemination in Urban Vehicular Networks

Estrella Garcia-Lozano (*University Carlos III of Madrid, Spain*); Celeste Campo (*University Carlos III of Madrid, Spain*); Carlos Garcia-Rubio (*University Carlos III of Madrid, Spain*); Alberto Cortes-Martin (*University Carlos III of Madrid, Spain*)

Realistic environment for VANET simulations to detect the presence of obstacles in Vehicular Ad Hoc Networks

Ahmad Mezher (*Universidad Politécnica de Cataluña, Spain*); Juan Oltra (*Universidad Politécnica de Cataluña, Spain*); Luis Aguiar (*Universidad Politécnica de Cataluña, Spain*); Cristhian Paredes (*Universidad Politécnica de Cataluña, Spain*); Carolina Barba (*University of Sinaloa, Mexico*); Mónica Igartua (*Universidad Politécnica de Cataluña, Spain*)

A Self-Adaptive Data Dissemination Solution for Intelligent Transportation Systems

Rodolfo Ipolito Meneguette Meneguette/ Rodolfo I. (Institute of São Paulo, Brazil); Azzedine Boukerche Boukerche/Azzedine (University of Ottawa, Canada); Guilherme Maia Maia/Guilherme (Federal University of Minas Gerais, Brazil); Antonio A. F. Loureiro Loureiro/Antonio A. F. (Federal University of Minas Gerais, Brazil); Leandro A. Villas/Villas/Leandro A. (University of Campinas, Brazil)

[3:15 PM - 3:30 PM] Coffee Break

[3:30 PM - 4:30 PM] Session 4: Multi-hop Networks

Simulated Analysis of Connectivity Issues for Sleeping Sensor Nodes in the Internet of Things

Tyler Ward (University of Southampton, United Kingdom); Kirk Martinez (University of Southampton, United Kingdom); Tim Chown (University of Southampton, United Kingdom).

Evaluating Metrics for Optimal Path Selection in Large Wireless Community Networks

Pablo Boronat (Universitat Jaume I, Spain); Miguel Pérez-Francisco (Universitat Jaume I, Spain); Carlos Calafate (Universitat Politècnica de València, Spain); Juan Cano (Universitat Politècnica de València, Spain); Pietro Manzoni (Universitat Politècnica de València, Spain).

Efficient deployment of gateways in multi-hop ad-hoc wireless networks

Luis Urquiza-Aguilar (Universitat Politècnica de Catalunya (UPC), Spain); Andrés Vázquez-Rodas (Universitat Politècnica de Catalunya (UPC), Spain); Carolina Tripp-Barba (University of Sinaloa, Mexico); Ahmad Mezher (Universitat Politècnica de Catalunya (UPC), Spain); Mónica Aguilar Igartua (Universitat Politècnica de Catalunya (UPC), Spain); Luis de la Cruz Llopis (Universitat Politècnica de Catalunya (UPC), Spain).

[4:50 PM - 5:00 PM] Closing and Final Remarks

Poster/Demo Sessions - MSWiM and Co-located Events

**MONDAY – SEPTEMBER 22nd and
TUESDAY – SEPTEMBER 23rd**

[2:00 PM - 5:30 PM] Poster Session

Efficient Coverage for Grid-Based Mobile Wireless Sensor Networks

Valeria Loscri (Inria Lille-Nord Europe, France); Enrico Natalizio (Université de Technologie de Compigne, France); Francesca Guerriero (D.E.I.S. University of Calabria, Italy); Nathalie Mitton (Inria Lille - Nord Europe, France)

Simulated analysis of connectivity issues for sleeping sensor nodes in the Internet of Things

Tyler Ward (University of Southampton, United Kingdom); Kirk Martinez (University of Southampton, United Kingdom); Tim Chown (University of Southampton, United Kingdom)

Experimental Evaluation of Pulse-Coupled Oscillator Synchronization in IEEE 802.15.4 Networks

Wasif Masood (Alpen Adria University Klagenfurt, Austria); Johannes Klinglmayr (University of Klagenfurt, Austria); Christian Bettstetter (University of Klagenfurt, Austria)

Data Synchronization via Random Network Coding

Duong Nguyen-Huu (Oregon State University, USA); Thinh Nguyen (Oregon State, USA)

Primary-secondary resource-management on vehicular networks under soft and hard collision constraints

Nicola Cordeschi ("Sapienza" University of Rome, Italy); Danilo Amendola (Sapienza University of Rome, Italy); Enzo Baccarelli (Sapienza University of Rome, Italy)

Towards a Simulation Framework for Paraglider Networks

Jurgen Eckert (University of Erlangen, Germany); Christoph Sommer (University of Paderborn, Germany); David Eckhoff (University of Erlangen, Germany)

[2:00 PM - 5:30 PM] Demo Session

Realistic Evaluation of Kernel protocols and Software Defined Wireless Networks with DCE/ns-3

Emilio P. Mancini (INRIA, France); Hardik Soni (INRIA, France); Thierry Turletti (INRIA, France); Walid Dabbous (INRIA, France); Hajime Tazaki (University of Tokyo, Japan)

Mobility in a large-scale WiFi network: From syslog events to mobile user sessions

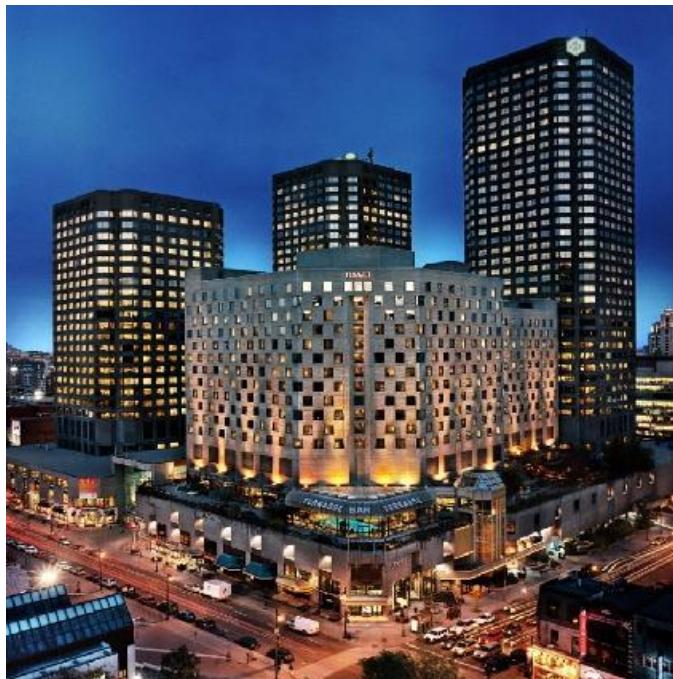
Jennie Steshenko (University of Massachusetts, Amherst); Vasanta G. Chaganti (University of Massachusetts, Amherst); James Kurose (University of Massachusetts, Amherst)

GENERAL INFORMATION

CONFERENCE VENUE

The MSWiM Main Conference and its allocated Symposia/Workshops will be held at the Hotel Hyatt Regency Montreal Downtown.

1255 Jeanne-Mance
Montreal, Quebec, Canada, H5B 1E5
Tel: +1(514)982-1234



NETWORKING WOMEN MEETING

Networking Women (N² Women) is an ACM SIGMOBILE program that is supported by the IEEE Communications Society, Microsoft Research and HP Labs.

N² Women meeting is a great opportunity for women in the computer networking domain to meet together and share their experiences. It has been held at many well-known conferences since 2006, e.g., IEEE INFOCOM, SECON, ICC, WiMob, WowMom, GLOBECOM, ACM MobiHoc, MobiCom, UbiComp, SenSys, SIGCOMM and so on. The main goal of N² Women is to foster connections among women and help their integration in computer networking and related research fields. We also welcome men, who share the same research interests, attend the same conferences, and often face the same career hurdles and obstacles, to join us!

Panelists:

Prof. Antonio A. F. Loureiro (Federal University of Minas Gerais, Brazil)

Dr. Thomas Begin (University Claude Bernard Lyon 1, France)

Mr. Francis St-Onge (Communications Research Centre, Canada)

MONTREAL

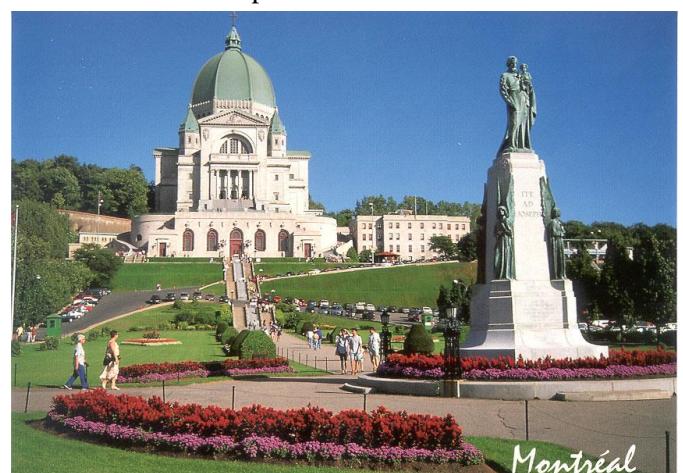
Montreal, Canada, is an international destination of choice, being the 2nd largest city in Canada and 2nd largest primarily french-speaking city; it is easily accessed by land, water, and air., and it is a Canadian and continental reference where the old and new seamlessly coexist. Downtown is a mere 20 minutes from the Pierre-Elliott Trudeau International Airport. Public transit is not only affordable; it's also a great way to get around the city. Quick, safe and clean, the metro connects downtown to major tourism attractions, as well as to numerous bus stops and train stations. In addition, cycling enthusiasts enjoy 450 km of bicycle paths, many of which lead to major tourist areas.

There are several must-see attractions in Montreal; just to name a few:

Biodome de Montreal housed in a former stadium used in the 1976 Olympics, the educational and entertaining Biodome consists of four different ecological habitats - rain forest, polar, marine and forest - where visitors can see the plants and animals native to each ecosystem. The polar penguins and puffins and the tropical monkeys and parrots will enthrall children and adults alike.



Saint Joseph's Oratory of Mount-Royal is the largest shrine dedicated to Saint Joseph in the world.



Located near Olympic Park, Montreal's huge botanical garden contains over 20,000 different plant species in 31 specialized gardens, including the largest Chinese Garden outside Asia and a Japanese Garden with a tearoom and fabulous bonsai collection.



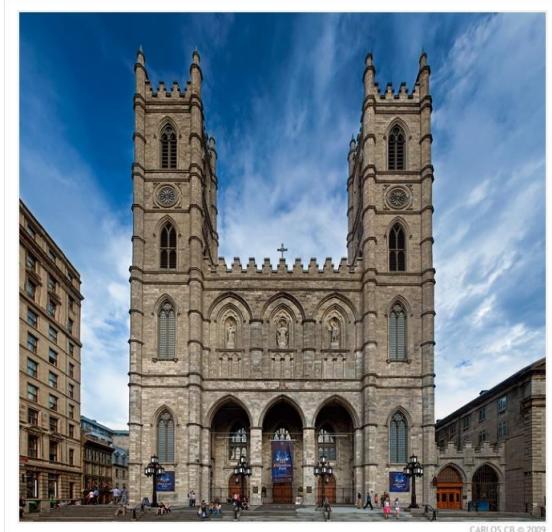
Vieux-Montréal is one of the most beautiful, well-preserved vibrant "old towns" this side of Europe. This is a key component in what makes Montreal, "the truly different North American city". A diverse and tolerant-to-all world city, Montreal is safe, cultural, cosmopolitan and proud of its French legacy, especially its language.



Mount Royal, referred to as "the mountain" by locals, this 764-foot mountain provides excellent view of the city and is a popular recreation spot.



Notre-Dame Basilica is the Montreal's oldest Catholic church, built in 1656, is known for its intricately designed interior, which includes stained glass chronicling the history of the city.



WI-FI ACCESS

Free Wi-Fi access is provided at the conference. More details will be provided at the Registration Desk.

BANQUET EVENING

MSWiM 2014 is glad to host a banquet evening on Tuesday, September 23rd at 19:30.

RESTAURANTS

The conference site is in Montreal downtown. There are plenty of options for eating out. Please see below some of the options close to conference hotel:

- Restaurant Baton Rouge
- Le Contemporain
- Brasserie T!
- Mikes – Montreal
- Restaurant Pipeline
- Pasha Restaurant
- Le Latini
- Restaurant Beijing Inc
- Nizza
- Piz Pistol
- Bellagio Ristorante
- Equipe Spectra
- Gutenberg (Le)

See them on map below:

