



ACM MSWiM 2017

20th ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems

Miami, USA - November 21st - 25th, 2017

TECHNICAL PROGRAM



Association for
Computing Machinery

Advancing Computing as a Science & Profession



SIGSIM

ACM SIG on Simulation and Modeling

Sponsor

Welcome to the 20th ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems, held in Miami, Florida.

In 2017, we celebrate the 20th edition of MSWiM, which has demonstrated growing success, serving as a great forum for researchers from academia and industry in these past years. For those interested in the history of MSWiM, the previous events belonging to this series were held in the following order:

MSWiM 2016 - Malta - November 13 - 17, 2016



MSWiM 2015 - Cancun, Mexico - November 02 - 06, 2015



MSWiM 2014 - Montreal, Canada - September 21 - 26, 2014



MSWiM 2013 - Barcelona, Spain - November 03 - 08, 2013



MSWiM 2012 - Paphos, Cyprus - October 21 - 25, 2012



MSWiM 2011 - Miami Beach, USA - October 31 - November 04, 2011



MSWiM 2010 - Bodrum, Turkey - October 17 - 21, 2010



MSWiM 2009 - Tenerife, Canary Islands, Spain - October 27 - 30, 2009



MSWiM 2008 - Vancouver, Canada - October 27 - 31, 2008



MSWiM 2007 - Chania, Crete Island, Greece - October 22 - 26, 2007



MSWiM 2006 - Torremolinos, Spain - October 02 - 06, 2006



MSWiM 2005 - Montreal, Canada - October 10 - 13, 2005



MSWiM 2004 - Venice, Italy - October 04 - 06, 2004



MSWiM 2003 - San Diego (CA), USA - September 19 - 19, 2003



MSWiM 2002 - Atlanta (GA), USA - September 28 - 28, 2002



MSWiM 2001 - Rome, Italy - July 15 - 20, 2001



MSWiM 2000 - Boston (MA), USA - August 20, 2000



MSWiM 1999 - Seattle (WA), USA - August 20, 1999



MSWiM 1998 - Montreal, Canada - August 15, 1998



Program at Glance

	Symposia Day 1	MSWiM Day 1	MSWiM Day 2	MSWiM Day 3	Symposia Day 2
	TUE - Nov 21	WED - Nov 22	THU - Nov 23	FRI - Nov 24	SAT - Nov 25
7:30	Registration	Registration	Registration	Registration	Registration
8:00		Welcome Opening Address			
8:30		Keynote 1 Prof. Stephan Olariu (8:30 - 9:30)		Session 5 Wireless Sensor Networks I (8:30 - 9:45)	Session 9 User Mobility and Data Integration (8:30 - 9:45)
9:00		Session 1 Wireless Networks (9:30 - 10:15)			
9:30		Coffee Break (10:15 - 10:45)		Coffee Break (9:45 - 10:15)	Coffee Break (9:45 - 10:15)
10:00		Session 2 WLAN and WPAN (10:45 - 12:00)		Keynote 2 Prof. Albert Y. Zomaya (10:15 - 11:15)	Keynote 3 Prof. Sotiris Nikoletseas (10:15 - 11:15)
10:30		Lunch (12:00 - 13:30)		Session 6 Wireless Sensor Networks II (11:15 - 12:00)	Session 10 Scheduling and Prediction (11:15 - 12:00)
11:00					
11:30					
12:00	DIVANet Q2SWinet		Lunch (12:00 - 13:15)	N2 Women	
12:30					Lunch (12:00 - 13:30)
13:00					
13:30		Session 3 Mobility and Multi-Channel Wireless Access (13:30 - 15:15)	Session 7 4G/5G Wireless Network (13:15 - 14:30)		Session 11 Performance Modeling and Measurement (13:30 - 15:00)
14:00		Coffee Break (15:15 - 15:45)	Coffee Break (14:30 - 15:00)		Coffee Break (15:00 - 15:30)
14:30			Panel Discussion (15:00 - 16:00)		
15:00					
15:30					
16:00		Session 4 Mobile Cloud/Fog/Edge Computing (15:45 - 17:30)	Session 8 Indoor Localization and Location Privacy (16:00 - 17:30)		Session 12 Traffic and Simulation Modeling (15:30 - 17:15)
16:30					
17:00				Closing Remarks	
17:30			Banquet (19:00)		
18:00					

Message from the Chairs

General Chair's Welcome Message

Welcome to the 20th ACM International Conference on Modelling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM), held this year in beautiful Miami Beach, FL, USA. Besides being filled with wonderful landscapes, warm beaches, and eye-catching sites, Miami is very diverse; with expressive multi-culturalism, it contains more than 150 ethnicities as well as over 60 different languages spoken. Miami now presents the largest collection of Art Deco Architecture, having more than 800 buildings featuring this type of architecture. The warm climate and geography favors on biodiversity, which enables to have the only Everglades eco-system in the world. Also, Miami has regularly been one of America's preeminent beach resorts since the early 20th century.

MSWiM has established itself over the years as a leading venue where some of the best research in the area of performance evaluation of wireless and mobile systems is presented, and this is no exception. This can be testified once we reach its twentieth edition. Putting together a high-quality conference like MSWiM is an enormous undertaking that requires a great team effort. We thank Richard Yu and Hsiao-Chun Wu for putting together the technical program, from the Call for Papers to the final program selection and its schedule. We also acknowledge the volunteer efforts of TPC members and external reviewers whose expertise and hard work culminated in selecting excellent papers. This year, MSWiM presents strong poster and demonstration sessions, managed by Robson E. De Grande and Tomoaki Ohtsuki, the Poster Sessions Co-Chairs, and Raquel Mini, the Demo Session Chair. Finally, the technical program includes three distinguished keynotes addresses by the following outstanding experts, Prof. Albert Y. Zomaya from University of Sydney, Australia, Prof. Sotiris Nikolatseas from University of Patras and CTI, Greece, and Prof. Stephan Olariu from Old Dominion University, USA.

To recognize excellence in research work in the field of Wireless Communications and Mobile Networking from academia and industry, the Reginald G. Fessenden Award has been established three years ago, and it is granted to a distinguished researcher for the remarkable contributions that he/she has achieved in the area. In 2016, the award was presented to Professor Jean-Pierre Hubaux from Ecole Polytechnique Federale de Lausanne, Switzerland in recognition of "his outstanding contributions to security and privacy protection in wireless networks". The winner for this year will be announced at the ACM MSWiM 2017 banquet dinner.

Four symposia and two tutorials will be held this year along with the main conference program, covering several specializations within mobile and wireless systems. The four symposia are: MobiWAC, PE-WASUN, DIVANET and Q2SWInet. Over the years, these symposia have become successful and quite competitive in their own right.

We also wish to express our gratitude to those who have managed the many practical details of the event. These individuals include Mirela Notare and Salil Kanhere as the Publicity Co-Chairs; and Pan Li and Costas Busch for organizing the tutorials in the Conference. We also express our appreciation to the MSWiM Steering Committee for their guidance and support, which helped us to bring together an exceptional conference program this year. Last but not least, we wish to thank our main sponsor, ACM SIGSIM.

We are very pleased to welcome you to MSWiM 2017 and fascinating Miami Beach. We are certain that you will find this year's event full of stimulating ideas and discussions.



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

Technical Program Chairs' Welcome Message

The technical program of the 20th ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM), held in Miami Beach, USA in 2017 continues to build upon the high standards set by previous editions of the conference.

In 2017, the call for papers attracted a large number of submissions in all areas of mobile and wireless systems. The submitted papers came from 36 countries. Members of the Technical Program Committee are affiliated to universities and industry in 15 countries spread over five continents, reflecting the truly international profile of MSWiM. The five most commonly listed topics for submissions to MSWiM'17 were:

- Performance evaluation and modeling
- Wireless network algorithms and protocols
- Wireless mesh networks, mobile ad hoc networks, Vehicular networks
- Algorithms and protocols for energy efficiency and power control
- 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 29 regular papers, which correspond to an acceptance rate of approximately 22%. An additional 12 short papers were recommended for the program owing to their quality and contribution.

Among the regular papers, the following three papers were shortlisted as candidates for the best paper award:

- "*Experimental Study of Packet Loss in a UWB Sensor Network for Aircraft*," Naveen Kolar Daniel Neuhold (Alpen Adria Universität, Austria); Jorge F. Schmidt (Alpen-Adria-Universität Klagenfurt, Austria); Jirka Klaue (Airbus Group Innovations, Germany); Dominic A. Schupke (Airbus & Innovation, Germany); Christian Bettstetter (University of Klagenfurt, Austria);
- "*Carrier-Sense Multiple Access with Collision Avoidance and Detection*," JJ Garcia-Luna-Aceves (University of California at Santa Cruz & Palo Alto Research Center, USA);
- "*Cost-Effective Processing in Fog-Integrated Internet of Things Ecosystems*," Wei Bao and Wei Li (The University of Sydney, Australia); Flávia Coimbra Delicato and Paulo F. Pires (Federal University of Rio de Janeiro, Brazil); Dong Yuan, Bing Bing Zhou, and Albert Zomaya (University of Sydney, Australia).

The winner among these three papers will be announced at the conference banquet, and will be reported in the proceedings of MSWiM 2017. At this point, we take the opportunity to congratulate the winners of the best paper award for MSWiM 2016:

- "*Theoretical Interference Analysis of Inter-vehicular Communication at Intersection with Power Control*," Tatsuaki Kimura (NTT Corporation, Japan) and Hiroshi Saito (NTT Corporation, Japan).

Prof. Hsiao-Chun Wu
Louisiana State University, USA



Prof. Richard Yu
Carleton University, Canada



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MSWiM Organizing Committee

General Chair:		Technical Program Committee	
Program Co-Chairs:	Hsiao-Chun Wu Louisiana State University, USA Richard Yu Carleton University, Canada	Antonio A.F. Loureiro Federal University of Minas Gerais, Brazil Adam Wolisz Andrea Passarella Andreas Willig Angel Cu evas Azzedine Boukerche Bjorn Landfeldt Brahim Bensaou Carla-Fabiana Chiasserini Cheng Li David Eckhoff Dirk Staehle Ehab Elmallah Enzo Mingozi Falko Dressler Francesco Lo Presti Holger Karl Hongyi Wu Hossam Hassanein Isabel Wagner Isabelle Guérin Lassous Jalel Ben-Othman James Gross JJ Garcia-Luna-Aceves Juan-Carlos Cano Klaus Wehrle Lorenzo Donatiello Luciano Bononi Martina Zitterbart Matthias Wählisch Mineo Takai Mónica Aguilera Igartua Raffaele Bruno Ravi Prakash Renato Lo Cigno Roberto Beraldí Robson De Grande Sotiris Nikoletseas Stephan Eidenbenz Terence D. Todd Thomas Begin Torsten Braun Violet Syrotiuk Zygmunt Haas Marcos di Renzo Giovanni Giambene Harald Kosch Maria G Martini Zhengguo Sheng Xu Zhu Olga Zlydareva	Federal University of Minas Gerais, Brazil TUB, Germany IIT-CNR, Italy University of Canterbury, New Zealand Universidad Carlos III de Madrid, Spain University of Ottawa, Canada Lund University, Sweden HKUST, Hong Kong Politechnico di Torino, Italy Memorial University of Newfoundland, Canada University of Erlangen, Germany Docomo Euro-Labs, Germany University of Alberta, Canada University of Pisa, Italy University of Innsbruck, Austria Universita' di Roma Tor Vergata, Italy University of Paderborn, Germany University of Louisiana at Lafayette, USA Queen's University, Canada University of Hull, UK Université Claude Bernard Lyon 1, France University of Paris 13, France Royal Institute of Technology, Sweden University of California at Santa Cruz, USA Universidad Politécnica de Valencia, Spain RWTH Aachen University, Germany Università di Bologna, Italy University of Bologna, Italy Karlsruhe Institute of Technology, Germany Freie Universität Berlin, Germany University of California, USA UPC, Spain IIT-CNR, Italy University of Texas at Dallas, USA University of Trento, Italy Sapienza Università di Roma, Italy Brock University, Canada University of Patras and CTI, Greece Los Alamos National Laboratory, USA McMaster University, Canada University Claude Bernard, Lyon 1, France University of Bern, Switzerland Arizona State University, USA Cornell University, USA Supelec, France University of Siena, Italy University of Passau, Germany Kingston College, United Kingdom Sussex University, United Kingdom University of Liverpool, United Kingdom Dublin City University, Ireland
Tutorials Co-Chairs:	Pan Li Case Western Reserve University, USA Costas Busch Louisiana State University, USA		
Workshop Chair:	Paolo Bellavista University of Bologna, Italy		
Demo & Tools Chair:	Raquel Mini PUC-Minas, Brazil		
Poster Co-Chairs:	Robson E. De Grande Brock University, Canada Tomoaki Ohtsuki Keio University of Japan, Japan		
Publicity Co-Chairs:	Mirela A. M. Notare Faculdade de Tecnologia em Transporte Aéreo, Brazil Salil Kanhere University of New South Wales, Australia		
PhD Forum Chair:	Bjorn Landfeldt Lund University, Sweden		
Finance Chair:	Azzedine Boukerche University of Ottawa, Canada		
Steering Committee			
Azzedine Boukerche	University of Ottawa, Canada (Chair)		
Sanjal K. Das	Missouri University of Science and Technology, USA		
Lorenzo Donatiello	Università di Bologna, Bologna, Italy		
Jason Yi-Bing Lin	National Chiao-Tung University, Taiwan		
Albert Zomaya	University of Sydney, Australia		
William C. Y. Lee	AirTouch Inc.		
Simon Taylor	Brunel University, UK		
Robson E. De Grande	Brock University, Canada		

Symposia Committees & MSWiM Award

ACM DIVANET Symposium

General Chair:	Mirela Sechi M. A. Notare Faculdade de Tecnologia em Transporte Aéreo, Brazil
Program Chair:	Rodolfo W. L. Coutinho Federal University of Minas Gerais, Brazil
Poster/Demo Chair:	Abdelghani Benmaddi NSERC DIVA Research Centre , Canada
Publicity Chair:	Salil Kanhere The University of New South Wales, Australia

ACM Q2SWINet Symposium

General Chair:	Steve Olariu Old Dominion University, USA
Program Chair:	Habib M. Ammari Fordham University, USA

ACM MOBIWAC Symposium

General Chair:	Ángel Cuervas Universidad Carlos III de Madrid, Spain
Program Co-Chairs:	Robson de Grande Brock University, Canada Amir Darehshoorzadeh CISCO, Canada
Poster/Demo Chair:	Graciela Román Alonso Universidad Autónoma Metropolitana, Mexico
Publicity Co-Chairs:	Khalil El-khatib UOIT, Canada Mirela. A. M. Notare Faculdade de Tecnologia em Transporte Aéreo, Brazil

ACM PE-WASUN Symposium

General Chair:	Isabelle Guérin Lassous University Lyon 1/LIP, Lyon, France
Program Co-Chairs:	Nathalie Mitton Inria, France Tahiry Razafindralambo University Reunion Island, France
Poster/Demo Chair:	Tahiry Razafindralambo University Reunion Island, France
Publicity Chair:	Farouk Mezghani Inria, France

The Reginald Fessenden Award

The ACM MSWiM Conference has established the Reginald Fessenden award to be given each year to a conference participant in recognition of exceptional scientific contributions to the field of wireless communication and networking, and mobile systems. The award was initiated in 2014 and named after Reginald Fessenden (October 6, 1866 - July 22, 1932), a Canadian pioneering of Radio Broadcasting who designed the first radio transmission of the human voice. He is widely known as the "Father" of Radio Broadcasting, and he developed amplitude modulation (AM), as well as perfected new means of sending Morse code, presenting over 200 additional patents in his portfolios and including an earlier version of sonar. The selection committee is composed by the Steering Committee Chairs, and the awardee is appointed upon recommendation from the Technical Program Chairs and the General Chairs, who have been responsible for the technical program of the conference, including inviting the speakers. The award is presented to the winner at the Conference Banquet for that specific year.

The winner of the ACM MSWiM'17 Reginald Fessenden Award will be announced at the Conference Banquet Dinner.

Past Award Winners



[2016] Prof. Jean-Pierre Hubaux for his outstanding contributions to security and privacy protection in wireless networks.



[2015] Prof. Mario Gerla for his outstanding work in the development of Routing, Transport Protocols, and Applications in Mobile Wireless Networks.



[2014] Prof. Ian F. Akyildiz for pioneering contributions for modeling and analysis of cellular and multihop wireless communication systems.



Keynote Addresses & Tutorials

Tutorial I - Tuesday, November 21

Title: Big data analytics of mobile things



Antonio F. Loureiro

Federal University of Minas Gerais, Brazil

Abstract:

The popularization of mobile devices with sensing capacity has allowed to obtain a huge volume of data with space-time information of different entities, such as people, vehicles and objects. The knowledge extraction from these data has offered unprecedented opportunities in different areas such as mobile networks, design of communication protocols, infrastructure planning and service provision. These are examples that can benefit from such analysis of this large data collection. In this tutorial, we will present and discuss what can be accomplished from the analysis of this large data volume, i.e., the so-called the big data analytics. More specifically, our goal is to show how 5G, mobile networks and Internet of mobile things can benefit from the knowledge extracted from these mobile entities with sensing capability.

Tutorial II - Tuesday, November 21

Title: Opportunistic Routing in Underwater Sensor Networks:
Potentials, Challenges and Guidelines



Dr. Rodolfo W. L. Coutinho
University of Ottawa, Canada



Prof. Azzedine Boukerche
University of Ottawa, Canada

Abstract:

Underwater wireless sensor networks (UWSNs) emerge as an enabling technology for the monitoring of vast areas of aquatic environments. This technology will pave the way for future large-scale applications of ocean monitoring, which will help to change the worryingly current reality where oceans are completely unknown. However, due to the harsh nature of aquatic environments and the underwater wireless communication features, efficient data collection in UWSN is still a daunting task. This tutorial will provide a comprehensive review of the research challenges and potential approaches for efficient data collection in UWSNs. It will highlight the characteristics of UWSNs and of the underwater acoustic channel, which diminishes the performance of networking protocols. It will analyze the benefits of geographic and opportunistic routing for reliable data delivery and the potentials of duty-cycling for energy conservation in UWSN. Finally, based on an in-deep literature review, this tutorial will provide useful insights for the further design of networking protocols for data routing in UWSNs.

Keynote 1 - Wednesday, November 22

Title: VC Research - What is Missing?

Prof. Stephan Olariu
Old Dominion University, USA



Abstract:

Vehicular Clouds (VCs) have become an active research topic. However, even a cursory look reveals that the VC literature of recent years is full of papers discussing fanciful VC architectures and services that often seem too good to be true. It seems to us that promoting VC models without any regard to their practical implementation is casting a long shadow of doubt on the feasibility of those VC models and is apt to discredit the practicality of the VC concept altogether. Part of the problem seems to be that some authors do not seem to be concerned with the obvious fact that moving vehicles' residency times in the VC may, indeed, be very short and, therefore, so is their contribution to the amount of useful work performed. Worse yet, should a vehicle running a user job leave the VC prematurely the amount of work performed by that vehicle may be lost. It is important to recall that the success of conventional cloud computing (CC) is attributable, to a large extent, to the ability to provide quantifiable (i.e., quantitative) functional characteristics such as high scalability, reliability and availability. In conventional CC, cloud service providers have come to equate reliability and availability with customer satisfaction and, ultimately, revenue. By the same token, if the VCs are to see a widespread adoption, the same quantitative aspects have to be addressed here, too. Feasibility issues in terms of sufficient compute power, communication bandwidth, reliability, availability and job duration time are all fundamental quantitative aspects of VCs that need to be studied and understood before one can claim with any degree of certainty that they can support the workload for which they are intended. The main contribution of this paper is to map out directions and challenges related to a quantitative analysis of the performance characteristics of VC architectures and services.

Short Bio:

Stephan Olariu received the Ph.D. degree in computer science from McGill University, Montreal, Canada. He is currently a Professor of Computer Science at Old Dominion University, Norfolk, VA, USA. He has held many different roles and responsibilities as a member of numerous organizations and teams. Much of his experience has involved the design and implementation of robust protocols for wireless networks and their applications. He is applying mathematical modeling and analytical frameworks to the resolution of problems ranging from securing communications to predicting the behavior of complex systems and evaluating performance of wireless networks. His most recent research interests are in the area of vehicular clouds.

Keynote 2 - Thursday, November 23

Title: Provisioning and Management of Internet of Things

Applications: Open Issues and Insights



Prof. Albert Y. Zomaya
University of Sydney, Australia

Abstract:

Recent technological trends such as Industry 4.0 introduced new challenges that push the limit of current computer and networking architectures. It demands the connection of thousands, if not millions, of sensors and mobile devices coupled with optimized operations to automate various operations inside factories. This led to the new era of Internet of Things (IoTs) where lightweight (possibly mobile) devices are envisaged to send vital information to cloud data centres (mobile and fixed infrastructure) for further processing and decision making. Current cloud computing systems, however, are not able to efficiently digest and process collected information from IoT devices with strict response requests for two main reasons: (1) the round trip delay between IoT devices to the processing engines of cloud could exceed an application's threshold, and (2) network links to cloud resources could be clogged when IoT devices flush data in an uncoordinated fashion. Fog and Edge Computing are two solutions to address both of the previous problems. Though designed to alleviate the same problem, they have fundamental differences that make adopting one more applicable than the other. This talk will overview the practical concerns of today's IoT implementations through tackling the most important obstacles that hinder their adoption. First, production of applicable network (fixed and mobile) latency models to capture all elements of IoT platforms. Second, building a holistic platform to orchestrate various inter-related layers of IoT platforms, including connectivity, big-data analytics, and workload optimization. Third, proposing viable solutions that can be actually implemented in IoT-based applications. More details will be provided about the above issues during the talk.

Short Bio:

Albert Y. Zomaya is the Chair Professor of High Performance Computing & Networking and served as Australian Research Council Professorial Fellow (2010- 2014) in the School of Information Technologies, Sydney University. He is also the Director of the Centre for Distributed and High Performance Computing which was established in late 2009. He served as the Editor in Chief of the IEEE Transactions on Computers (2011-2014) and was elected recently as a Founding Editor in Chief for the newly established IEEE Transactions on Sustainable Computing. Also, Dr. Zomaya serves as a Co-Founding Editor-in-Chief of IET Cyber- Physical Systems, Founding Editor-in-Chief of the Journal of Scalable Computing and Communications (Springer), and Associate Editor-in-Chief (Special Issues) of the Journal of Parallel and Distributed Computing.

Keynote 3 - Friday, November 24

Title: Key Concepts and Algorithms for Wireless Power Transfer in Adhoc Communication Networks

Prof. Sotiris Nikoletseas
University of Patras and CTI Patras, Greece



Abstract:

A Wireless Power Transfer (WPT) system consists of chargers which transmit power wirelessly and receivers which harvest the radio frequency energy from the chargers. WPT has evolved to a very active research subject, as well as a topic of rapid technological progress and emerging practical development and commercial applications. However, a solid foundational and algorithmic framework seems still necessary for WPT to achieve its full potential.

In this respect, the talk aims to discuss different characteristic abstract WPT models (scalar, vector, peer to peer) and present key optimization problems (power maximization, coverage, placement, radiation control). Relevant algorithmic design and analysis methods and performance properties (and their trade-offs) are also provided, as well as interesting WPT notions and concepts (such as super-additive and cancellation phenomena in the received power, notions of electromagnetic radiation control in dense, strong WPT fields and energy-aware distributed network formation in large populations of very weak mobile nodes).

Short Bio:

Sotiris Nikoletseas is a Full Professor at the Computer Engineering and Informatics Department of Patras University, Greece and Director of the SensorsLab at the Computer Technology Institute (CTI). He has been a visiting professor at the Universities of Geneva, Ottawa and Southern California (USC). His research interests include algorithms for sensor networks, IoT systems and testbeds, wireless energy transfer protocols, probabilistic methods and random graphs, and algorithmic engineering. He has edited 3 Books (on probabilistic methods, sensor networks, wireless power) and over 200 publications, while he has delivered several invited talks and tutorials. He has initiated international conferences on sensor networking. He has coordinated several externally funded European Union R&D Projects related to fundamental aspects of modern networks.

MSWiM Conference Technical program

Tuesday, November 21

[07:30] Registration Opening

[All Day] Concurrent Symposia I

(Check Individual Symposia Schedules)

Q2SWinet 2017

13th ACM International Symposium on QoS and Security for Wireless and Mobile Networks

DIVANet 2017

7th ACM Symposium on Design and Analysis of Intelligent Vehicular networks and Applications

[09:30 - 12:30] Tutorial I

Big data analytics of mobile things

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

[12:30 - 13:30] Lunch Break

[13:30 - 16:00] Tutorial II

Opportunistic Routing in Underwater Sensor Networks: Potentials, Challenges and Guidelines

Azzedine Boukerche (University of Ottawa, Canada) & Rodolfo W. L. Coutinho (University of Ottawa, Canada)

Wednesday, November 22

[7:30] Registration Opening

[All Day] Concurrent Symposia II

(Check Individual Symposia Schedules)

Q2SWinet 2017

13th ACM International Symposium on QoS and Security for Wireless and Mobile Networks

DIVANet 2017

7th ACM Symposium on Design and Analysis of Intelligent Vehicular networks and Applications

[08:00 - 08:30] Welcome Address

[08:30 - 09:30] Keynote Speech 1

VC Research - What is Missing?

Prof. Stephan Olariu (Old Dominion University, USA)

[09:30 - 10:15] Session 1: Wireless Networks

Optimal Mapping of Stations to Access Points in Enterprise Wireless Local Area Networks

Suzan Bayhan and Anatolij Zubow (Technische Universität Berlin, Germany)

Semi-Blind Interference Prediction in Wireless Networks

Mahin K. Atiq and Udo Schilcher (University of Klagenfurt, Austria), Jorge F. Schmidt (Alpen-Adria-Universität Klagenfurt, Austria), Christian Bettstetter (University of Klagenfurt, Austria)

[10:15 - 10:45] Coffee Break

[10:45 - 12:00] Session 2: WLAN and WPAN

LABeL: Link-based Adaptive Blacklisting Technique for 6TiSCH Wireless Industrial Networks

Vasileios Kotsiou (University of Strasbourg, France), Georgios Z. Papadopoulos (IMT Atlantique, France), Periklis Chatzimisios (Alexander TEI of Thessaloniki, Greece), Fabrice Théoleyre (CNRS, France)

WiFO: A Hybrid WiFi Free-Space Optical Communication Networks of Femtocells

Qiwei Wang, Spencer Liverman, Yu-Jung Chu, Anindita Borah, Songtao Wang, Thinh Nguyen, Alan Wang and Arun Natarajan (Oregon State University, USA)

The Importance of Adjacent Channel Interference: Experimental Validation of ns-3 for Dense Wi-Fi Networks

Andra M. Voicu, Laurent Lava and Ljiljana Simić (RWTH Aachen University, Germany), Marina Petrova (KTH Royal Institute of Technology, Sweden)

[12:00 - 13:30] Lunch Break

[13:30 - 17:30] Poster Session and Demos I

[13:30 - 15:15] Session 3: Mobility and Multi-Channel Wireless Access

Carrier-Sense Multiple Access with Collision Avoidance and Detection

JJ Garcia-Luna-Aceves (University of California at Santa Cruz, USA)

Multi-Channel Continuous Rendezvous in Cognitive Networks

Cledson O. Sousa, Diego Passos, Ricardo C Carrano and Celio Albuquerque (Fluminense Federal University, Brazil)

Rendezvous with Utilities in Cognitive Radio Networks

Xiao Lin (Tsinghua University, China) and Zhaoquan Gu (The University of Hong Kong, China)

Improving BLE Distance Estimation and Classification using TX power and Machine Learning: A Comparative Analysis

Mimonah Al Qathrady and Ahmed Helmy (University of Florida, USA)

GRM: Group Regularity Mobility Model

Ivan Nunes (University of California, Irvine, USA), Clayson Celes, Michael Silva, Pedro O. S. Vaz de Melo and Antonio A.F. Loureiro (Federal University of Minas Gerais, Brazil)

[15:15 - 15:45] Coffee Break

[10:45 - 12:00] Session 4: Mobile Cloud/Fog/Edge Computing

Quality of Experience-Aware Mobile Edge Caching through a Vehicular Cloud

Luigi Vigneri and Thrasyvoulos Spyropoulos (EURECOM, France), Chadi Barakat (INRIA Sophia Antipolis, France)

MSWiM Conference Technical program

Cost-Effective Processing in Fog-Integrated Internet of Things Ecosystems

Wei Bao and Wei Li (The University of Sydney, Australia), Flávia Coimbra Delicato and Paulo F. Pires (Federal University of Rio de Janeiro, Brazil), Dong Yuan, Bing Bing Zhou and Albert Zomaya (University of Sydney, Australia)

QoS-Aware Task Offloading in Distributed Cloudlets with Virtual Network Function Services

Mike Jia and Weifa Liang (The Australian National University, Australia), Zichuan Xu (Dalian University of Technology, China)

Providing Computing Services through Mobile Devices in a collaborative way - A Fog Computing Case Study

Danilo Costa Segura, Rafael Stabile, Sarita Mazzini Bruschi, Paulo S. Souza (University of São Paulo, Brazil)

Hardening Opportunistic HIP

Adel Fuchs and Ariel Stelman (Jerusalem College of Technology, Israel), Andrei Gurkov (Linköping University, Sweden)

Thursday, November 23

[07:30] Registration Opening

[08:30 - 09:45] Session 5: Wireless Sensor Networks I

DADCA: An Efficient Distributed Algorithm for Aerial DataCollection from Wireless Sensors Networks by UAVs

Bruno Jose Olivier de Souza and Markus Endler (Pontifícia Universidade Católica do Rio de Janeiro, Brazil)

Experimental Study of Packet Loss in a UWB Sensor Network for Aircraft

Daniel Neuhold and Jorge F. Schmidt (Alpen-Adria-Universität Klagenfurt, Austria), Jirka Klaue and Dominic A. Schupke (Airbus, Germany), Christian Bettstetter (University of Klagenfurt, Austria)

Lifetime-Aware Data Collection Using A Mobile Sink in WSNs with Unreachable Regions

Chuanyao Nie and Hui Wu (University of New South Wales, Australia), Wenguang Zheng (Tianjin University of Technology, China)

[09:45 - 10:15] Coffee Break

[10:15 - 11:15] Keynote Speech 2

Provisioning and Management of Internet of Things Applications: Open Issues

[11:15 - 12:00] Session 6: Wireless Sensor Networks II

Serial in-network Processing for Large Stationary Wireless Sensor Networks

Mohammed Merzoug (Bejaia University); Azzedine Boukerche (University of Ottawa, Canada); Ahmed Mostefaoui (Université de Franche Comté, France)

PTQ: A New Privacy-Preserving Top- k Query Protocol in Tiered Wireless Sensor Networks

Juru Zeng, Jianxiang Zhu, Yuncheng Wu, Hong Chen, Cuiping Li and Shan Wang (Renmin University of China, China)

[12:00 - 13:15] Lunch Break

[13:15 - 14:30] Session 7: 4G/5G Wireless Network

Live Synthesis of Vehicle-Sourced Data Over 4G LTE

Wenlu Hu, Ziqiang Feng, Zhuo Chen and Jan Harkes (Carnegie Mellon University, USA); Padmanabhan Pillai (Intel Corporation, USA), Mahadev Satyanarayanan (Carnegie Mellon University, USA)

Performance Model for 4G/5G Heterogeneous Networks with Different Classes of Users

Narcisse Nya and Bruno Baynat (Université Pierre et Marie Curie-LIP6, France)

Joint User Association and Backhaul Routing for Green 5G Mesh MillimeterWave Backhaul Networks

Agapi Mesodiakaki (Karlstad University, Sweden), Enrica Zola (Technical University of Catalonia, Spain), Andreas J. Kassler (Karlstad University, Sweden)

[14:30 - 15:00] Coffee Break

[15:00 - 16:00] Panel Discussion

[16:00 - 17:30] Session 8: Indoor Localization and Location Privacy

Acrux: Indoor Localization Without Strings

Jean-Gabriel Krieg, Gentian Jakllari, Hadrien Toma and André-Luc Beylot (University of Toulouse, France)

Pre-Crowdsourcing: Predicting Wireless Propagation with Phone-Based Channel Quality Measurements

Rita Enami, Yan Shi, Dinesh Rajan and Joseph D. Camp (Southern Methodist University, USA)

Rate-Compatible Transmission Schemes Based on Parallel Concatenated Punctured Polar Codes

Jian Jiao, Sha Wang, Bowen Feng, Shaohua Wu, Shushi Gu and Qinyu Zhang (Harbin Institute of Technology, China)

An Uncertain Continuous Collaborative Users Finding Algorithm for Location Privacy Protection

Lei Zhang and Chunguang Ma (Harbin Engineering University, China), Songtao Yang (Jiamusi University, China), Zengpeng Li (Harbin Engineering University, China)

[19:00] Banquet

Friday, November 24

[07:30] Registration Opening

[All Day] Concurrent Symposia III

(Check Individual Symposia Schedules)

MobiWAC 2017

15th ACM International Symposium on Mobility Management and Wireless Access

PE-WASUN 2017

13th ACM International Symposium on Performance Evaluation of Wireless Ad Hoc, Sensor and Ubiquitous Networks

MSWiM Conference Technical program

[08:30 - 9:45] Session 9: User Mobility and Data Integration

Reverse Engineering Human Mobility in Large-scale Natural Disasters

Milan Schmittner and Max Maass (Technische Universität Darmstadt, Germany), Tom Schons (BearingPoint Switzerland, Switzerland), Matthias Hollick (Technische Universität Darmstadt, Germany)

SMAFramework: Urban data integration framework for mobility analysis in smart cities

Diego Rodrigues (University of Campinas, Brazil), Azzedine Boukerche (University of Ottawa, Canada), Thiago H. Silva (Federal University of Technology, Brazil); Antonio A.F. Loureiro (Federal University of Minas Gerais, Brazil) and Leandro Aparecido Villas (UNICAMP, Brazil)

Inferring Private Demographics of New Users in Recommender Systems

Mingxuan Sun and Changbin Li (Louisiana State University, USA) and Hongyuan Zha (Georgia Institute of Technology, USA)

[09:45 - 10:15] Coffee Break

[10:15 - 11:15] Keynote Speech 3

Key Concepts and Algorithms for Wireless Power Transfer in Adhoc Communication Networks

Prof. Sotiris Nikoletseas (Patras University and CTI, Greece)

[11:15 - 12:00] Session 10: Scheduling and Prediction

Scheduling Nodes in Underwater Networks using Voronoi Diagram

Eduardo Câmara Júnior, Luiz F. M. Vieira and Marcos A. M. Vieira (Federal University of Minas Gerais, Brazil)

Energy-efficient HTTP Adaptive Streaming with Anticipated Channel Throughput Prediction in Wireless Networks

Liqiang Tao and Yi Gong (Southern University of Science and Technology, China), Shi Jin (Southeast University, China) and Junhui Zhao (Beijing Jiaotong University, China)

[12:00 - 13:30] Lunch Break

[13:30 - 17:30] Poster Session and Demos II

[13:30 - 15:00] Lunch Break

[13:30 - 15:00] Session 11: Performance Modeling and Measurement

GeoRIPE: Efficiently Harvesting Field Measurements for Map-Based Path Loss Modeling

Matthew Tonnemacher, Dinesh Rajan and Joseph D. Camp (Southern Methodist University, USA)

Synchronizing Tiny Sensors with SISP: a Convergence Study

OOana Hotescu, Katia Jaffrè-Sunser, Adrien van den Bossche and Thierry Val (Université de Toulouse, France)

INDIGO: Interest-Driven Data Dissemination Framework For Mobile Networks

Silvia Giordano (University of Applied Sciences and Arts of Southern Switzerland, Switzerland), Kamini Garg (UPC, Switzerland) and Mehdi Jazayeri (University of Lugano, Switzerland)

REPSYS: A Robust and Distributed Reputation System for Delay-Tolerant Networks

Naercio Magaia, Paulo Pereira and Miguel Correia (INESC-ID, Portugal)

[15:00 - 15:30] Coffee Break

[15:30 - 17:15] Session 12: Traffic and Simulation Modeling

Cross Fertilization Between Wireless Testbeds and NS-3 Simulation Models

Guillaume Kremer, Philippe Owezarski and Pascal Berthou (Université de Toulouse, France)

Tracking You through DNS Traffic: Linking User Sessions by Clustering with Dirichlet Mixture Model

Guangyue Xu and Mingxuan Sun (Louisiana State University, USA), Junjie Zhang and Dae Wook Kim (Wright State University, USA)

CESAR: A Testbed Infrastructure to Evaluate the Efficiency of Wireless Automotive Software Updates

Marco Steger (Virtual Vehicle, Austria), Carlo Alberto Boano and Kay Römer (Graz University of Technology, Austria), Michael Karner, Joachim Hillebrand and Werner Rom (Virtual Vehicle, Austria)

Ensuring the Reliability of an Autonomous Vehicle: a Formal Approach based on Component Interaction Protocols

Samir Chouali (Université de Franche Comté, France), Azzedine Boukerche (University of Ottawa, Canada) and Ahmed Mostefaoui (Université de Franche Comté, France)

Attraction-Area based Geo-Clustering for LTE Vehicular CrowdSensing Data Offloading

Douglas Fabiano de Sousa Nunes (Federal Institute of Education, Science and Technology of South of Minas Gerais, Brazil), Edson D. S. Moreira (University of São Paulo, Brazil), Bruno Yuji Lino Kimura (Federal University of São Paulo, Brazil), Nishanth Sastry and Toktam Mahmoodi (King's College London, United Kingdom)

[17:15 - 17:30] Closing Remarks

Saturday, November 25

[07:30] Registration Opening

[All Day] Concurrent Symposia IV

(Check Individual Symposia Schedules)

MobiWAC 2017

15th ACM International Symposium on Mobility Management and Wireless Access

PE-WASUN 2017

13th ACM International Symposium on Performance Evaluation of Wireless Ad Hoc, Sensor and Ubiquitous Networks

ACM Q2SWINET Symposium

Tuesday, November 21

[08:30 - 08:45] Opening and Welcome Address

[08:45 - 10:15] Session 1: Security and Privacy

Mitigating Selective Jamming Attacks in SM Data Collection using MTD

Ramazan Algin (Florida International University, USA), Huseyin Ozgur Tan (University of California Santa Cruz, USA) and Kemal Akkaya (Florida International University, USA)

Proactive Certificate Distribution for PKI in VANET

Joshua Harrington, Khalil El-Khatib and Jesse Lacroix (University of Ontario Institute of Technology, Canada), Felipe Lobo (Federal University of Roraima, Brazil) and Horacio Oliveira (Universidade Federal do Amazonas, Brazil)

An Efficient Source Anonymity Technique based on Exponential Distribution against a Global Adversary Model using Fake Injections

Anas Bushnaq, Abdelshakour A. Abuzneid and Ausif Mahmood (University of Bridgeport, USA)

[10:15 - 10:45] Coffee Break

[10:45 - 12:15] Session 2: Modeling and Analysis of Wireless Networks

An Empirical Characterization Of Internet Round-Trip Times

Daniel Alves and Katia Obraczka (University of California, Santa Cruz, USA)

A Reusable Component-based Model for WSN Storage Simulation

Marcos Aurelio Carrero (UFPR, Brazil), Martin A. Musicante (UFRN, Brazil), Aldri Santos and Carmem Hara (UFPR, Brazil)

Analysis of Underwater Target Detection Probability by Using Autonomous Underwater Vehicles

Peng Sun and Azzedine Boukerche (University of Ottawa, Canada)

[12:15 - 13:45] Lunch Break

[13:45 - 15:15] Session 3: Wireless Sensor Networks

Reactive Routing Protocol for Event Reporting in Mobile-Sink Wireless Sensor Networks

Catalina Aranzazu Suescun and Mihaela Cardei (Florida Atlantic University, USA)

Heuristic and Meta-Heuristic Approaches for Energy-Efficient Coverage-Preserving Protocols in Wireless Sensor Networks

Antonina Trytyakova, Franciszek Seredyński (Cardinal Stefan Wyszyński University in Warsaw, Poland) and Frédéric Guinand (Normandy University in Le Havre, France)

System Level Evaluation and Validation of the ns-3 LTE Module in 3GPP Reference Scenarios

Andrei Marinescu, Irene Macaluso and Luiz Da Silva (Trinity College Dublin, Ireland)

[15:15 - 15:45] Coffee Break

ACM Q2SWINET Symposium

[15:45 - 17:15] Session 4: QoS and Performance

Mobile Matrix: A Multihop Address allocation and Any-To-Any Routing in Mobile 6LoWPAN

Bruno P. Santos, Olga Goussevskaia, Luiz F. M. Vieira, Marcos A. M. Vieira and Antonio A.F. Loureiro (Federal University of Minas Gerais, Brazil)

Location-based Mechanism for Positioning of a Mobile Relay

Filip Lemic (TUB, Germany), Arash Behboodi (RWTH Aachen University, Germany), Vlado Handziski and Anatolij Zubow (TUB, Germany), Rudolf Mathar (RWTH Aachen University, Germany) and Adam Wolisz (TUB, Germany)

Mining Historical Data towards Interference Management in Wireless SDNs

Maryam Karimi, Prashant Krishnamurthy, James Joshi and David Tipper (University of Pittsburgh, USA)

Wednesday, November 22

[08:30 - 09:30] Keynote Speech 1

VC Research - What is Missing?

Prof. Stephan Olariu (Old Dominion University, USA)

[09:30 - 10:00] Coffee Break

[10:00 - 12:00] Session 5: Data Analytics of Wireless Networks

Spatio-Temporal Compressive Sensing Technique for Data Gathering and Anomaly Detection in Wireless Sensor Networks

Mohamed-Ali Moussa (Université Paris-Est, France) and Yacine Ghamri-Doudane (University of la Rochelle, France)

Network Coding for 5G Network and D2D Communication

Luiz F. M. Vieira and Marcos A. M. Vieira (Federal University of Minas Gerais, Brazil)

Distributed Coordinate-free Boundary Nodes Identification in Wireless Sensor Networks

Linna Wei and Yuanxia Shen (Anhui University of Technology, China)

Priority Aware Interference Mitigation Techniques For Coexistence Of Wireless Technologies In Smart Utility Networks

Badrun Nahar (Institute of Information and Communication Technology, Bangladesh), Mohammad S. Alam (Bangladesh University of Engineering and Technology, Bangladesh), Shamim Ara Shawkat (University of Tennessee, USA) and Mohammad Asadul Hoque (East Tennessee State University, USA)

[12:00 - 14:00] Lunch Break

[14:00 - 17:00] Discussion

Data Collection in Underwater Wireless Sensor Networks: Research Challenges and Potential Approaches

Chair: Rodolfo W. L. Coutinho (UFMG, Brazil)

[17:00 - 17:15] Closing Remarks

Symposia Technical Program

ACM DIVANET Symposium

Tuesday, November 21

[08:45 - 09:00] Welcome Address

[09:00 - 10:15] Session 1: Localization, Tracking and Positioning

Spatially Adaptive Positioning for Molecular Geometry Inspired Aerial Networks

Joshua Rentropo and Mustafa I Akbas (Florida Polytechnic University, USA)

Tracking Vehicles Equipped with Dedicated Short-Range Communication at Traffic Intersections

Patrick Emami (University of Florida, USA), Lily Elefteriadou (University of Florida at Gainsville, USA) and Sanjay Ranka (University of Florida, USA)

SoLVE: A Localization System Framework for VANETs using Cloud and Fog Computing

Felipe Lobo (Federal University of Roraima, Brazil), Khalil El-Khatib (University of Ontario Institute of Technology, Canada), Moyses M. Lima and Horacio Oliveira (Universidade Federal do Amazonas, Brazil) and Joshua Harrington (University of Ontario Institute of Technology, Canada)

[10:15 - 10:45] Coffee break

[10:45 - 12:15] Session 2: Vehicular Networking

Deep Reinforcement Learning Based Resource Management in Software-Defined and Virtualized Vehicular Ad Hoc Networks

Ying He and F. Richard Yu (Carleton University, Canada) and Azzedine Boukerche (University of Ottawa, Canada)

A Lightweight and Efficient Approach (LEA) for Hovering Information protocols

Tomo Nikolovski and Richard W. Pazzi (University of Ontario Institute of Technology, Canada)

nlsSIM: Porting and Simulation of Named-data Link State Routing Protocol into ndnSIM

Anil Jangam and Deepinder Sidhu (University of Maryland, Baltimore County, USA)

[12:15 - 13:30] Lunch

[13:30 - 15:15] Session 3: Resource Management

On the Characterization of Vehicular Mobility

Gabriel Diniz, Felipe Cunha and Antonio A.F. Loureiro (Federal University of Minas Gerais, Brazil)

ACM DIVANET Symposium

Management of Controller Intelligence for Adaptive Cruise Control Systems in Automobiles

Kaliappa Ravindran and Arun Adiththan (City University of New York, USA)

Performance Analysis of Communication Networks for EV Charging

Mohamed A. Ahmed (Sungkyunkwan University, Korea) and Young-Chon Kim (Chonbuk National University, Korea)

Resource Allocation in Software Defined Fog Vehicular Networks

Yaomin Zhang (BUCT, China), Haijun Zhang and Keping Long (University of Science and Technology Beijing, China), Xiaoming Xie (BUCT, China) and Victor C.M. Leung (University of British Columbia, Canada)

[15:15 - 15:45] Coffee break

[15:45 - 17:45] Session 4: Security and Privacy

The Cooperative Vehicle Infrastructure System Based on Machine Vision

Dixin Tian, Chuang Zhang, Xuting Duan and Jianshan Zhou (Beihang University, China), Zhengguo Sheng (University of Sussex, United Kingdom (Great Britain)) and Victor C.M. Leung (University of British Columbia, Canada)

Utilizing Advanced Metering Infrastructure to Build a Public Key Infrastructure for Electric Vehicles

Mumin Cebe and Kemal Akkaya (Florida International University, USA)

Mass Configuration with Confirmation in Tactical Networks

Prateek Kumar Singh and Koushik Kar (Rensselaer Polytechnic Institute, USA), James Nguyen (US Army CERDC, USA) and Daniel Ku (CERDC & Space and Terrestrial Communications Directorate, USA)

Detection and Avoidance of Wormhole Attacks in Connected Vehicles

Sami Saad Albouq and Erik Fredericks (Oakland University, USA)

Wednesday, November 22

[08:30 - 09:30] Keynote Speech 1

VC Research - What is Missing?

Prof. Stephan Olariu (Old Dominion University, USA)

[09:30 - 10:00] Coffee break

ACM DIVANET Symposium

[10:00 - 12:00] Session 5: Routing and Data Dissemination

Addressing the Effects of Low Vehicle Densities in Highly Mobile Vehicular Named-Data Networks

Joao M. Duarte (University of Bern, Switzerland & UNICAMP, Brazil), Torsten Ingo Braun (University of Bern, Switzerland) and Leandro Aparecido Villas (UNICAMP, Brazil)

Implementation and performance assessment of location-based routing protocols for MANETs

Israel Martin-Escalona and Enrica Zola (Technical University of Catalonia, Spain), Fabio Perrone (Politecnico di Torino, Italy), Francisco Barcelo-Arroyo and Sergio Machado (Universitat Politècnica de Catalunya, Spain)

Using Probabilistic Estimates to Guarantee Reliability in Crossroad VANETs

Daniel Markert, Philip Parsch and Alejandro Masrur (Chemnitz University of Technology, Germany)

Modeling, Analysis and Simulation of Wireless Power Transfer

Alexander de Sousa, Luiz F. M. Vieira and Marcos A. M. Vieira (Federal University of Minas Gerais, Brazil)

[12:00 - 14:00] Lunch

[14:00 - 17:00] Discussion

Data Collection in Underwater Wireless Sensor Networks: Research Challenges and Potential Approaches

Chair: Rodolfo W. L. Coutinho (Federal University of Minas Gerais, Brazil)

[17:00 - 17:15] Closing Remarks

ACM MOBIWAC Symposium

Friday, November 24

[07:30] Registration Opens

[08:15 - 08:30] Welcome Message from the Co-Chairs

[08:30 - 09:45] Mobility Analysis and Detection

An Innovative Dynamic Bit Rate Streaming Approach to Improve Mobile User Multimedia Quality of Experience

Charles Hallan Santos, Felipe Sampaio Dantas Silva (IF of Rio Grande do Norte, Brazil) and Augusto J. Venancio Neto (Federal University of Rio Grande do Norte, Brazil)

Meeting Room State Detection using Environmental Wi-Fi Signature

Jian Wu, Soumya Jyoti Behera and Radu Stoleru (Texas A&M University, USA)

A Flow Control Policy Based on the Class of Applications of the Vehicular Networks

Rodolfo Meneguette and Luis Hideo V. Nakamura (IFSP, Brazil)

[09:45 - 10:15] Coffee Break

[10:15 - 11:15] Keynote Speech

Key Concepts and Algorithms for Wireless Power Transfer in Adhoc Communication Networks

Sotiris Nikoletseas (Patras University and CTI, Greece)

[11:15 - 12:20] Optimization and Performance

Multipath TCP in Smartphones: Impact on Performance, Energy, and CPU Utilization

Swetank Kumar Saha, Abhishek Kannan, Geunhyung Lee, Nishant Ravichandran, Parag Kamalakar Medhe, Naved Merchant and Dimitrios Koutsonikolas (University at Buffalo, USA)

Decentralised Data Piggybacking and Link Scheduling for Reliable Broadcast in VANETs

Guangbing Xiao, Haibo Zhang, Zhiyi Huang and Yawen Chen (University of Otago, New Zealand)

NQ-GPLS: N-Queen Inspired Gateway Placement and Learning Automata-based Gateway Selection in Wireless Mesh Network

Afsaneh Razi and Kien Hua (University of Central Florida, USA) and Akbar Majidi (Shanghai Jiao Tong University, China)

[12:20 - 13:30] Lunch Break

[13:30 - 17:00] Poster Sessions and Discussions

Symposia Technical Program

ACM MOBIWAC Symposium

Saturday, November 25

[07:30] Registration Opens

[08:30 - 10:00] Session 1: Wireless Communications and Applications

Design and Analysis of Virtualized Caching Service on Cellular Infrastructure

Seonghoon Moon, Yoonsu Shin, Sunyoung Chung and Songkuk Kim (Yonsei University, Korea)

An Ultra-Wide Overlay Cognitive Radio System for Wireless Backhauling for Small Cells

Michael Doering and Anatolij Zubow (TUB, Germany), Pablo Leyva (AED Engineering GmbH, Germany) and Adam Wolisz (TUB, Germany)

Identifying Channel Saturation in Wi-Fi Networks via Passive Monitoring of IEEE 802.11 Beacon Jitter

Laudin Molina (IMT Atlantique & Université Européene de Bretagne, France), Alberto P Blanc (IMT Atlantique, France), Nicolas Montavont (Institut Mines Telecom / Telecom Bretagne, France) and Ljiljana Simić (RWTH Aachen University, Germany)

Outdoor Range Measurements in sub-GHz License-free Radio Bands under Realistic Conditions

Stefan Weidling and Mario Schoelzel (IHP, Germany), Michael Maaser and Matthias Taubert (Green Way Systems GmbH, Germany) and Nicole Todtenberg and Thomas Basmer (IHP, Germany)

[10:00 - 10:30] Coffee Break

[10:30 - 12:00] Session 2: Network Virtualization and Software-Defined Networks

Modular Redundancy for Cloud based IMS Robustness

Muhammad Taqi Raza, Hsiao-Yun Tseng (UCLA, Los Angeles, USA), ChangLong Li (University of Science and Technology of China, China) and Songwu Lu (UCLA, USA)

A Defense System for Defeating DDoS Attacks in SDN based Networks

Adel Alshamrani, Ankur Chowdhary, Duo Lu, Sandeep Pisharody and Dijiang Huang (Arizona State University, USA)

Locator/Identifier Separation-based SDWN for Mobility Management

Eunil Antonio Seo, Slava Zalyubovskiy and Tai-Myoung Chung (Sungkyunkwan University, Korea)

A Generic And Configurable Topology Discovery Service For Software Defined Wireless Multi-Hop Network

Lunde Chen, Slim Abdellatif and Pascal Berthou (Université de Toulouse, France), Kokouvi Béit Nougnanke (ENSA Khouribga, Morocco) and Thierry Gayraud (Université de Toulouse, France)

ACM MOBIWAC Symposium

[12:00 - 13:30] Lunch Break

[13:30 - 15:00] Session 3: Wireless Sensor Networks

A Hybrid Solution for 3D Location and Time Synchronization in WSN

Cristiano Cardoso (UNICAMP, Brazil), Daniel L. Guidoni (Federal University of São João Del-Rei, Brazil), Bruno Yuji Lino Kimura (Federal University of Sao Paulo, Brazil); Leandro Aparecido Villas (UNICAMP, Brazil)

An Evolutionary Graph-Based Approach for Managing Self-Organized IoT Networks

Yara Mahfood Haddad and Hesham Ali (University of Nebraska Omaha, USA)

Closed Peripheral Coverage in Wireless Multimedia Sensor Networks

Amor Lalama, Nesrine Khernane and Ahmed Mostefaoui (Université de Franche Comté, France)

[15:00 - 15:30] Coffee Break

[15:30 - 17:00] Session 4: Vehicular networks

Towards a formal analysis of MQTT protocol in the context of communicating vehicles

Samir Chouali (Université de Franche Comté, France), Azzedine Boukerch (University of Ottawa, Canada); Ahmed Mostefaoui (Université de Franche Comté, France)

Using Mathematical Methods against Denial of Service (DoS) Attacks in VANET

Youssef Lahrouni, Amar Bensaber Boucif, Caroly Pereira, Ismail Biskri (Quebec University at Trois-Rivieres, Canada)

2hGAR: 2-Hops Geographical Anycast Routing Protocol for Vehicle-to-Infrastructure communications

Luis F Urquiza-Aguiar (Escuela Politécnica Nacional, Ecuador), Mónica Aguilar Igartua (Universitat Politècnica de Catalunya, Spain), Carolina Tripp-Barba (Universidad Autónoma de Sinaloa, Mexico) and Xavier Calderón (Escuela Politécnica Nacional, Ecuador)

High Awareness Adaptive Beaconing Based on Fuzzy Logic in VANET

Mohammed Alhameed and Imad Mahgoub (Florida Atlantic University, USA)

[17:00 - 17:15] Closing Remarks

ACM PE-WASUN Symposium

Friday, November 24

[\[10:00 - 10:15\] Welcome Address](#)

[\[10:15 - 11:15\] Keynote Speech 3](#)

Key Concepts and Algorithms for Wireless Power Transfer in Adhoc Communication Networks

Prof. Sotiris Nikoletseas (Patras University and CTI, Greece)

[\[12:00 - 13:30\] Lunch Break](#)

[\[13:30 - 17:00\] Poster sessions and discussions](#)

Saturday, November 25

[\[07:30\] Registration opens](#)

[\[08:00 - 08:10\] Welcome Address](#)

[\[08:10 - 09:50\] Session 1: Medium Access Control and Energy Efficiency](#)

Carrier Resolution Multiple Access

J.J. Garcia-Luna-Aceves (University of California, Santa Cruz, USA)

CTMA: A More Efficient Channel Access Method for Networks with Hidden Terminals

J.J. Garcia-Luna-Aceves (University of California, Santa Cruz, USA)

Revisiting the Analytical Modeling of the IEEE 802.11 Power Save Mode for Independent Basic Service Sets (IBSS)

Stephanie Soares and Marcelo Carvalho (University of Brasilia, Brazil)

Performance Analysis of Modified IEEE 802.15.4e MAC for Wireless Sensor Networks

Sudhir Ranjan Pattanaik, Prasan Kumar Sahoo and Shih-Lin Wu (Chang Gung University, Taiwan)

[\[09:50 - 10:15\] Coffee Break](#)

[\[10:15 - 11:30\] Session 2: UAVs, Robots and Vehicular networks](#)

Moving Towards Wireless Sensors using RSSI Measurements and Particle Filtering

Jovan Radak, Lukas Baulig, Dawid Bijak, Christian Schowalter and Hannes Frey (Universität Koblenz-Landau, Germany)

Control of a remote swarm of drones/robots through a local (possibly model) swarm : qualitative and quantitative issues

Serge Chaumette (Université de Bordeaux, France)

ACM PE-WASUN Symposium

REPRO: Time-constrained Data Retrieval for Edge Offloading in Vehicular Clouds

Victor Sotto, Robson E. De Grande and Azzedine Boukerche (University of Ottawa, Canada)

[\[11:30 - 11:55\] Session 3: Routing, Broadcast and Application](#)

FinalComm: Leveraging dynamic communities to improve forwarding in DTNs

Naercio Magaia, Pedro Gomes and Paulo Pereira (Universidade de Lisboa, Portugal)

[\[11:55 - 13:30\] Lunch Break](#)

[\[13:30 - 15:10\] Session 3: Routing, Broadcast and application](#)

On the Energy Efficiency and Performance of Neighbor Discovery Schemes for Low Duty Cycle IoT Devices

Junaid Ahmed Khan, Romain Pujol, Razvan Stanica and Fabrice Valois (INSA Lyon)

Performance Evaluation of a Battery-Free Videogame Controller

Gaia Maselli and Giulio Salierno (Sapienza University of Rome)

On the Performance Evaluation of Distributed Resource Block and Power Allocation in D2D-enabled Multi-Cell Networks

Georgios Katsinis (National Technical University of Athens, Greece), Eirini Tsiropoulou (University of New Mexico, Mexico) and Symeon Papavassiliou (National Technical University of Athens, Greece)

Towards multi-instances QoS efficient RPL for Smart Grids

Jad Nassar (Inria, France), Nicolas Gouvy (HEI, France) and Nathalie Mitton (Inria, France)

[\[15:10 - 15:30\] Discussion and Closing](#)

General Information

Conference Venue

MSWiM 2017 Main Conference and its allocated Symposia & Workshops will be hosted at the Loews Miami Beach Hotel.

1601 Collins Avenue
Miami Beach, FL - 33139
USA

Tel: +1 305-604-1601

Wi-Fi

Information about Wi-Fi access will be provided at the conference registration Desk.



Miami

Located in USA, Miami Beach is filled with wonderful landscapes, warm beaches, and eye-catching sites. Miami contains the largest cruise ship port in the entire world. Many cruise ships go in and out of this port on a daily basis. In 2008, South Beach was rated #1 Beach in America by the Travel Chanel.

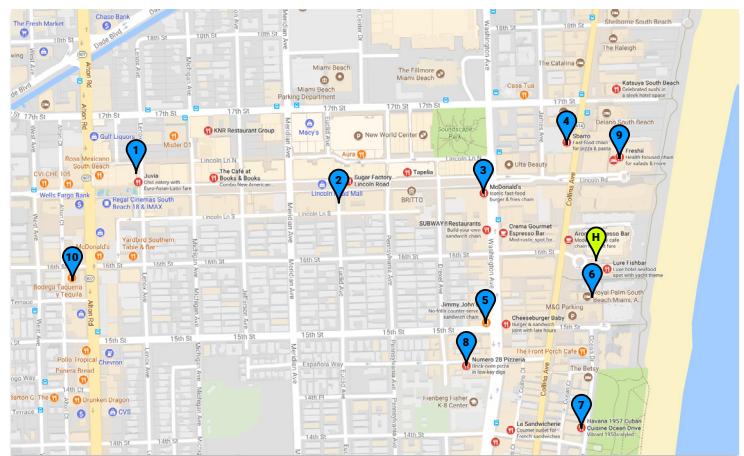
Banquet Evening

MSWiM 2017 is glad to host its an evening banquet on Thursday, November 23rd. More details will be provided at the registration Desk.



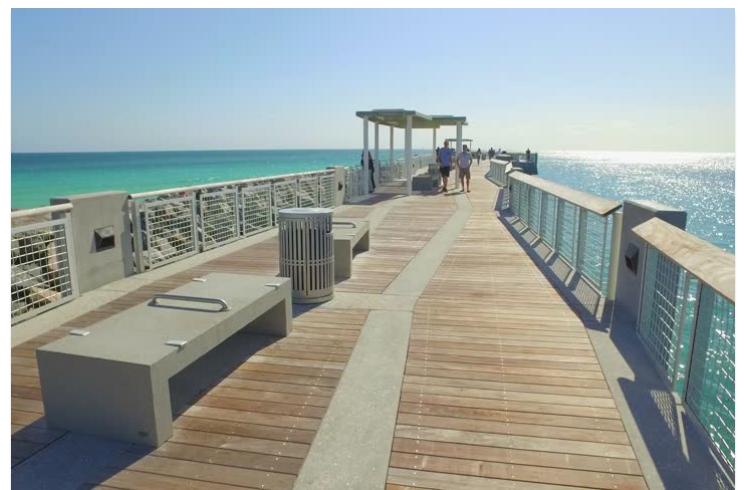
Restaurants

1. Shakeshack
2. Gelateria 4D
3. McDonalds
4. Sbarro
5. Sriracha House
6. Britto Restaurant
7. Havana 1957 Cuban
8. Numero 28 Pizzeria
9. Freshii
10. Bodega Taqueria



South Pointe Park and Pier

Located at the southernmost tip of Miami Beach, South Pointe is a 17-acre park that features walking paths, grassy knolls and sweeping views of the ocean. The 450-foot-long pier now offers stations for cutting bait and washing fish, recycling bins for fishing line and more seating for additional vantage points of the ocean.



Lummus Park

The grassy stretch between Ocean Drive and the beach features plenty of palm trees and a winding paved pathway that attracts runners, bikers and rollerbladers. It is also the home of the South Beach Triathlon. Spending some time here will put you within walking distance of Ocean Drive's many restaurants and bars and allow you to experience the Art Deco District, in addition to the sun and sand.



Lincoln Road Mall

Located on Lincoln Road, between Alton Road and Washington Avenue, the Lincoln Road Mall is a mile-long, pedestrian shopping area. Originally designed in the 1950s, the Lincoln Road Mall received a makeover in 1997 that lead to a resurgence in popularity. In 2011, the Lincoln Road Mall was added to the National Register of Historic Places. In addition to several stores and restaurants, the area hosts a farmers market on Sundays, morning yoga classes throughout the year and outdoor concerts.



Ancient Spanish Monastery

Set in North Miami Beach, this monastery has a storied past. Officially known as the Monastery of St. Bernard de Clairvaux, construction on the structure began in A.D. 1133 in northern Spain and was completed eight years later. Today, it's an active congregation that welcomes churchgoers and also acts as an attraction highlighting the monastery's beautiful architecture and its surrounding gardens.



Holocaust Memorial

Located near the corner of Dade Boulevard and Meridian Avenue, the Holocaust Memorial in South Beach is a moving tribute to the victims and survivors of the Holocaust. The site features a series of statues, architectural pieces, a garden of meditation and a memorial wall.





**We are very pleased to welcome you to MSWiM 2017, held in Miami, Florida.
We are confident that both the conference and your stay in Miami will be
informative, interesting and above all enjoyable!**

MSWiM 2017 Organizing Committee

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 2017, the call for papers attracted a large number of registered papers in all areas of mobile and wireless systems. This allowed us to build a very strong and valuable program through a thorough reviewing process, presenting an acceptance ratio of 20%. The submitted papers came from 36 countries, reflecting the truly international profile of MSWiM. Members of the Technical Program Committee are affiliated to universities and industry in 15 countries spread over five continents.

CO-LOCATED EVENTS

Co-located with the ACM MSWiM 2017 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); Design and Analysis of Intelligent Vehicular networks and Applications (DIVANet); QoS and Security for Wireless and Mobile Networks (Q2SWinet).