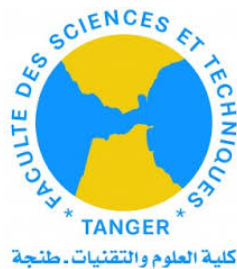




June 20-22, 2018

Tangier, Morocco

Technical Program



كلية العلوم والتقنيات . طنجة



Welcome Message from the General Chair

It is our great pleasure to welcome you to the 7th IEEE International Conference on Selected Topics in Mobile and Wireless Networking (MoWNet'2018).

The ever increasing market penetration of smart-phones, tablets, and netbooks, along with the ubiquitous availability of wireless networks are deeply influencing the way people live, work, interact, and socialize. However, the broad popularity and diffusion of innovative services and applications tailored at mobile users is also raising challenging research issues that require us to rethink available mobile technology solutions to meet the emerging needs of a broader and ever growing user base.

The goal of MoWNet is to bring together researchers and scientists to present and discuss advances on selected topics in Mobile & Wireless Networking. The conference aims to address recent research results and to present their methodologies, models, technologies, systems, tools, applications, work in progress and experiences.

Following MoWNet'2018, MoWNET'2016, MoWNET'2014, MoWNet'2013, iCOST'2012 and iCOST'2011 which were held in Avignon/France, Cairo/Egypt, Rome/Italy, Montreal/Canada, Avignon/France and Shanghai/China, respectively, MoWNet'2018 will be held in Tangier, Morocco, during June 20-22, 2018.

Being the seventh edition, MoWNet'2018 has been a great success. The conference had an extensively long list of highly qualified and well-known researchers and scientists on board its TPC. The 2018 edition of the conference has also attracted a respectable number of submissions of high quality; each being reviewed on average by at least three peer anonymous reviewers. To maintain a low acceptance ratio, the technical program committee agreed on accepting only 11 high quality research papers and 3 invited papers.

The general chair of the conference would like to take this opportunity to thank the general co-chairs Mohammed Bouhorma and Samuel Pierre for their work and efforts in handling all aspects of administrative tasks, the TPC chair lead Josep Miquel Jornet for handling strongly the review process and conference program creation during all the review cycle of MoWNet'2018 and the TPC co-chairs for their support during the review process. Also, we would like to thank Hamid Sharif and Latif Ladid for handling workshop proposals. This year, we have three workshops FMCIoT'18, BDEC-SmartCity'18 and TAMPAS'18, we would like to thanks all their organizers and mainly Charif Mahmoudi, Fabrice Mourlin, Kuan Zhang and Nabil Benamar.

Also, we address special thanks to Tooska Dargahi, Beatriz Lorenzo, Richa Bharadwaj, Saida Maaroufi, Huong Nguyen-Minh and Nasreddine Lagraa for their high dedication to advertize for the conference through different mediums. We don't forget to thank our webmaster Miss Huong Nguyen Minh for handling all aspect of the web site of MoWNet. We do not find words strong enough to also thank all TPC members and reviewers for their highly valuable, above all timely feedback on submissions. Without their time and their support, the conference would not have been this successful. We would like to also express our gratitude to all authors that have considered submitting their research work to the conference. They have truly contributed to a rich and high quality technical program of the conference. Last but not least, the conference steering committee and organizing committee are highly grateful to the local organizers and the University of Abdelmalek Essaadi (UAE) and the Faculty of Sciences and Techniques of Tangier (FSTT) which host the conference, our technical sponsors the VUNOTIC association, and the IEEE Communication Society for its highly appreciated technical sponsorship and for its acceptance to

publish the proceedings of MoWNet'2018 in IEEE Xplore Digital Library.

We hope that you will find this program interesting and thought-provoking and that it will provide you with a valuable opportunity to share ideas with other researchers and practitioners from institutions around the world.

We sincerely wish you an exciting stay in Tangier, Morocco.

Prof. Abderrahim Benslimane

General Chair of MoWNet'2018



Abderrahim Benslimane is Full Professor of Computer Science and Engineering at the University of Avignon (France) since September 2001. He has been an International Expert in secondment at the French Ministry of Foreign Affairs and International Development during 2012-2016. He has been as Associate Professor at the University of Technology of Belfort-Montbéliard since September 1994. He obtained the title to supervise researches (HDR 2000) from the University of Cergy-Pontoise, France. He received the PhD degree (1993), DEA (MS 1989) from the Franche-Comte University of Besançon, and BS (1987) from the University of Nancy, all in Computer Science.

His research and teaching interests are in wireless and mobile networks. Particularly, he works on multicast routing, inter-vehicular communications, IoT protocols, Quality of service, energy conservation, localization, intrusion detection and MAC layer performance evaluation. He was also interested in specification and verification of communication protocols, group communication algorithms and multimedia synchronization. He has more than 130 refereed international publications (book, journals and conferences) in all those domains.

He has served as technical program chair and co-chair, member of a number of international conferences. He has been reviewer of a great number of journals, of national research projects sponsored by the ANR/Telecom or EU projects. He served as expert at the HCERES for several French Labs. He was elected as a member of the CNU 27 during 2003-2007.

He is member of many editorial boards of international journals. He is member of several editorial boards of international journals: IEEE Wireless Communication Magazine, Wiley journals, and Elsevier Ad Hoc Networks and JNCA journals. He serves as General-Chair of the IEEE WiMob since 2008; he lunched and serves as General-Chair of iCOST and MoWNet since 2011. He served as a Symposium co-chair/leader in many IEEE international conferences such as ICC, Globecom, AINA and VTC. He was GE of many special issues. He participates to the steering and the program committee of many IEEE international conferences. He was Board committee member, Vice-chair of Student activities of IEEE France section/Region 8, since 2008 and he was Publication Vice-chair and he is now Conference Vice-Chair of the ComSoc TC of Communication and Information Security.



Technical Program at Glance

MoWNet'2018 TANGIER, MOROCCO

	Wednesday June 20	Thursday June 21	Friday June 22
08:00-09:15	Registrations and Receptions	Registrations and Receptions	Receptions
09:15-09:30	Opening Session: Welcome from the Summit General Chairs and MoWNet'2018 General Chair	Welcome from MoWNet'2018 General Chair	
09:00-10:30	5G-1: Global 5G Vision	MoWNet Keynote 1: Enabling mass media delivery and interconnected social experiences through Xcasting in 5G	MoWNet Keynote 2: The next generation vehicular networks with edge computing
10:30-11:00	Coffee Break		
11:00-12:30	5G-2: Radio Networks and Verticals	M1: MoWNet'18: Wireless Communication	B1: BDEC-SmartCity'18
12:30-14:00	Lunch		
14:00-15:30	5G-3: Applications & Topicals	M2: MoWNet'18: Mobile and Wireless Networks & Applications	F1: FMCIoT'18
15:30-16:00	Coffee Break		
16:00-17:30	5G-4: Panel Discussion & Concluding Remarks T1: TAMPAS'18	M3: MoWNet'18: 5G & Virtualization	

Wednesday, June 20

08:00 – 09:15

Registrations

09:15 - 09:30

MoWNet'2018: Opening Ceremony

09:30 - 10:30

5G-1 (MoWNet'2018): Global 5G Vision

Moderator: Latif Ladid

Room: Amphi

Talk 1:

IEEE 5G Initiative.

Latif LADID, IEEE 5G Initiative, General co-Chair, IEEE 5G World Forum, co-Chair IEEE 5G Summits.

Talk 2:

5G Spectrum Challenges and Economics.

Heinz Torsten Bernold, The Boston Consulting Group.

Talk 3:

Challenges on 5G SDN research.

Rui Luis Aguiar, Instituto de Telecomunicações.

10:30 – 11:00

MoWNet'2018: Coffee Break

11:00 – 12:30

5G-2 (MoWNet'2018): Radio Networks and Verticals

Moderator: Abderrahim Benslimane

Room: Amphi

Talk 1:

5G Networks for Industry Verticals.

Xavier Perez Costa, Head of 5G Networks R&D, NE, Europe.

Talk 2:

Ultra-Reliable and Low-latency communication: Tail, Risk and Scale.

Mehdis Bennis, Center for Wireless Communications, University of Oulu, Finland.

Talk 3:

5G-Xcast: Towards interconnected social experiences through mass delivery of immersive content.

Athul Prasad, Head of 5G Business Modeling and Analysis, Nokia Bell Labs, Finland.

14:00-15:30

5G-3 (MoWNet'2018): Applications & Topicals

Moderator: Essaid Sabir

Room: Amphi

Talk 1:

Recent Advances and Challenges in Security for 5G Systems.

Yi Qian, Professor, College of Engineering University of Nebraska-Lincoln, USA.

Talk 2:

TBD.

Mounir Ghogho, Head of TIC Lab, UIR-Morocco/University of Leeds-UK.

Talk 3:

TBD.

Speaker to be confirmed from ANRT.

16:00-17:30

5G-4 (MoWNet'2018): Panel Discussion & Concluding Remarks

Moderator: Latif Ladid

Room: Amphi

T1 (MoWNet'2018): TAMPAS'18

Room 1

Chair: Nabil Benamar (Moulay Ismail University, Morocco)

Autonomous Traffic Management: Open Issues and New Directions

[Sara El Hamdani](#) (University Moulay Ismail, Morocco); [Nabil Benamar](#) (Moulay Ismail University, Morocco)

New classification of Named Data Networking Applications

[Kaoutar Ahed](#) (University Moulay Ismail, Morocco); [Maria Benamar](#) (UMI, Morocco); [Rajae El Ouazzani](#) (Ecole Supérieure de Technologie, Morocco)

Impulsive noise reduction techniques in Power Line Communication: a survey and recent trends

[Samir Laksir](#), [Abdelaali Chaoub](#) and [Ahmed Tamtaoui](#) (National Institute of Posts and Telecommunications, Morocco)

Security Analysis of Vehicular Ad-hoc Networks based on Attack Tree

[Meriem Houmer](#) (ENSAM, Moulay Ismail University, Meknes, Morocco); [Moulay Lahcen Hasnaoui](#) (Université Moulay Ismail, Meknès, Ecole Supérieure de Technologie, Meknès, Morocco); [Abdeslam Elfergougui](#) (Faculty of Sciences, Moulay Ismail University (UMI), Morocco)

Thursday, June 21

09:30 - 10:30

Keynote 1 (MoWNet'2018):

Enabling mass media delivery and interconnected social experiences through Xcasting in 5G

Dr. Athul Prasad Nokia Bell Labs, Finland

Room: Amphi

Chair: Abderrahim Benslimane (University of Avignon & LIA/CERI, France)

Abstract:

5G-Xcast is a 5G-PPP Phase-2 project, aiming to devise, assess and demonstrate large scale immersive media delivery by means of novel wireless technologies, contributing to the further enhancements of 5G/NR technologies and its standardization. The talk will focus on the mechanisms and technology enablers for a unified framework for Xcasting in 5G - where Xcasting implies the efficient use of uni-, multi-, and broad-casting mechanisms to efficiently transport data using a 5G network. The focus will also be on the holistic approach to harmonize media delivery across Xcast communication modes, and to provide a seamless user experience, as well as common application programming interfaces to content service providers. Special emphasis will also be given during the talk to emerging new immersive media services that cannot be efficiently delivered by existing technologies and networks.

Biography

Dr. Athul Prasad is an experienced researcher, innovator and technologist with a passion for change through disruptive innovation. He has worked with various telcos such as Huawei, Nokia, and NEC Corp, in research and product development for 10+ years in various roles. Currently, he is working as a Senior 5G Radio Research Specialist at Nokia Bell Labs, Finland and technical manager for 5G-PPP phase-2 flagship project on multicast/broadcast called 5G-Xcast. He is the co-author and co-inventor for over 70 international publications, patent applications (including granted patents), technical reports and standards contributions. He has won the best paper award at IEEE VTC-Spring 2013, and has been actively involved in various top conferences and journals. He received his Masters', M.Sc. (Tech.) (with distinction) and Doctoral, D.Sc. (Tech) degrees in Communications Engineering from Aalto University, and is pursuing the one-year Executive Education (LEAD) Program on Corporate Innovation from Stanford University's Graduate School of Business.

10:30 - 11:00

MoWNet'2018: Coffee Break

11:00 - 12:30

M1 (MoWNet'2018): MoWNet'18: Wireless Communication

Room: Amphi

Chair: Mostafa Hefnawi (Royal Military College of Canada, Canada)

New approach for the treatment of FBRLS algorithm with long impulse response

[Hamzé Haidar Alaeddine](#) (Lebanese University, Lebanon); [Mohamad Houssini](#) (LIU, Lebanon); [El-Houssain Baghious](#) and [Gilles Burel](#) (Université de Bretagne Occidentale, France)

Frequency Reconfigurable Patch Antenna Using Pin Diodes with Directive and Fixed Radiation Pattern

[Zakaria Mahlaoui](#) (Cadi Ayyad University & Universitat Politècnica de València, Spain); [Eva Antonino-Daviu](#) (Universitat Politècnica de València, Spain); [Adnane Latif](#) (Cadi Ayyad University, Morocco); [Miguel Ferrando-Bataller](#) (Universitat Politècnica de València, Spain); [Carlos Ramiro Peñafiel-Ojeda](#) (Universitat Politècnica de València & Universidad Nacional de Chimborazo, Spain)

Capacity-Aware Multi-User Massive MIMO for Heterogeneous Cellular Network

[Mostafa Hefnawi](#) (Royal Military College of Canada, Canada)

On mmWave Radio Network Planning based on a Centralized Access Control

[Daniela Panno](#) and [Salvatore Riolo](#) (University of Catania, Italy)

14:00 - 15:30

M2 (MoWNet'2018): MoWNet'18: Mobile and Wireless Networks & Applications

Room: Amphi

Chair: Mohammed Bouhorma (Faculté des Sciences et Techniques de Tanger, Morocco)

MOCP: An Offloading Protocol for Mobile Cloud and IoT virtualization

[Fabrice Mourlin](#) (University of Paris Est, France); [Charif Mahmoudi](#) (NIST, USA)

Greedy Curvetric-based Routing Protocol for VANETs

[Mohamed Lehsaini](#) (University of Tlemcen, Algeria); [Tawfiq Nebbou](#) (Université de Tlemcen, Algeria)

Quantifying Sleep-Related Energy Savings in Indoor LTE HetNets Radio Access

[Martin Klapez](#), [Carlo Augusto Grazia](#) and [Maurizio Casoni](#) (University of Modena and Reggio Emilia, Italy)

Performance Analysis of a novel Passenger Train Wireless Communications Architecture for High-Speed Trains

[Subharthi Banerjee](#), [Michael Hempel](#) and [Hamid Sharif](#) (University of Nebraska-Lincoln, USA)

15:30 - 16:00

MoWNet'2018: Coffee Break

16:00 - 17:30

M3 (MoWNet'2018): MoWNet'18: 5G & Virtualization

Room: Amphi

Chair: Martin Klapez (University of Modena and Reggio Emilia, Italy)

A SDN/NFV based C-RAN architecture for 5G Mobile Networks

[Gianluca Valastro](#), [Daniela Panno](#) and [Salvatore Riolo](#) (University of Catania, Italy)

A novel SDN based architecture and traffic steering method for service function chaining

[Hajar Hantouti](#) and [Nabil Benamar](#) (Moulay Ismail University, Morocco)

New safety measure to protect the 3G/4G SIM cards against cloning

[Salim Chitroub](#) (Electronics and Computer Science Faculty, USTHB, Algeria); [Nabil Zidouni](#) (USTHB, Algeria)

Friday, June 22

09:30 - 10:30

Keynote2 (MoWNet'2018):

The next generation vehicular networks with edge computing

Prof. Zhou Su, Shanghai University, China

Chair: Mohammed Bouhorma (Faculté des Sciences et Techniques de Tanger, Morocco)

Abstract

With the advance of intelligent vehicles and industrial networks, there have been the increasing demands and keen research attentions to provide high-rate network connections and high-quality mobile data services to vehicles. According to the recent report, almost 90% of vehicles will be wirelessly connected by 2020. It can be predicted that an ever-increasing number of mobile data will be delivered over intelligent vehicular networks. In this talk, we discuss the challenges and solutions about the next generation vehicular networks with edge computing. Specifically, we make the analysis of consistency control to manage multiple replicas of mobile data distributed at the edge of networks. Next, we talk about the caching mechanism to efficiently store the mobile data based on the cooperation between vehicles and roadside units. In addition, some related experiment results and demos will be shown to introduce the potential of future intelligent vehicles.

Biography

Zhou Su is a professor with Shanghai University, China. His research interests include multimedia security, privacy, mobile networks and clouds. He has published papers in IEEE journals such as IEEE TMM, IEEE TWC, IEEE TETC, IEEE TVT, IEEE TCSS, IEEE TBD, IEEE CM, IEEE NM, IEEE WCM, IEEE IoTJ, ect. He received the best paper award of IEEE CyberSciTech2017, Wicon2016, CHINACOM2008, and Funai Information Technology Award for Young Researchers 2009. He is the editor of IET Communications, IEICE trans on Communications, Wireless Communications and Mobile Computing. He is a chair of interest group of IEEE Comsoc Society, Multimedia Communications Technical Committee, MENIG. He also served as symposium co-chair of several international conferences including IEEE VTC Spring 2016, IEEE CCNC2011, WCSP2017, ICC2018, etc. <http://lcc.shu.edu.cn>

10:30 - 11:00

MoWNet'2018: Coffee Break

11:00 - 12:30

B1: BDEC-SmartCity'18

Room: Amphi

Chair: Kuan Zhang (University of Nebraska-Lincoln, USA)

An Audit Framework for Data Lifecycles in a Big Data context

[Mohammed El arass](#) (Mohammed V University in Rabat EMI-SIWEB Team Rabat, Morocco); [Nissrine Souissi](#) (Ecole Nationale Supérieure des Mines de Rabat, Morocco);

[Iman Tikito](#) (Mohammed V University in Rabat EMI-SIWEB Team Rabat, Morocco)

Contract Theory Based Incentive Scheme for Mobile Crowd Sensing Networks

[Minghui Dai](#), [Zhou Su](#), [Yuntao Wang](#) and [Qichao Xu](#) (Shanghai University, P.R. China)

New SDN-based Architecture for Integrated Vehicular Cloud Computing Networking

[Baozhu Li](#) (University of Jinan, P.R. China); [Zhao Xuhui](#) (Henan University of Technology and Science, P.R. China); [Shi-Yuan Han](#) and [Zhenxiang Chen](#) (University of Jinan, P.R. China)

A lightweight key distribution scheme for secure D2D communication

[Mingsheng Cao](#), [Dajiang Chen](#), [Zhongye Yuan](#), [Zhiguang Qin](#) and [Chunwei Lou](#) (University of Electronic Science and Technology of China, P.R. China)

14:00 - 15:30

F1 (MoWNet'2018): FMCIoT'18

Room: Amphi

Chair: Fabrice Murlin (University of Paris Est, France)

Optimized GTS Utilization for IEEE 802.15.4 Standard

[Ahmad Naseem Alvi](#), [Rahat Mehmood](#), [Talha Ahmad](#) and [Malik Abdullah](#) (COMSATS Institute of Information Technology, Pakistan); [Safdar Hussain Bouk](#) (Kyungpook National University, Korea)

Which NoSQL database for IoT applications?

[Souad Amghar](#), [Safae Cherdal](#) and [Salma Mouline](#) (LRIT-CNRST URAC 29, Mohammed V University in Rabat, Faculty of Sciences, Morocco)

Distributed File System for NDN: an IoT Application

[Junior Dongo](#) and [Fabrice Murlin](#) (University of Paris Est, France); [Youssef Atik](#) (Quattro-IT, France)

Deep Learning for Packet Forwarding with an Application for Real Time IoT

[Mohamed Issam Ayadi](#) (RITM-ESTC / CED-ENSEM & University Hassan II, Morocco); [Fatimazahra Saadaoui](#) (ENSEM, Morocco); [Abderrahim Maizate](#) (RITM-ESTC / CED-ENSEM, University Hassan II & STIC Laboratory University Chouaib Doukkali, Morocco); [Mohamed Ouzzif](#) (RITM-ESTC / CED-ENSEM, Morocco)

New Smart Home's energy system design and implementation for frugal smart cities

[Laraki Mehdi](#) (Greentic-ENSEM, University Hassan II Casablanca, Morocco); [Yassine Ouallo](#) and [Oussa Mohamed](#) (University Hassan II Casablanca, Morocco); [Aawatif Hayar](#) (GREENTIC/ENSEM/UH2C, Morocco)