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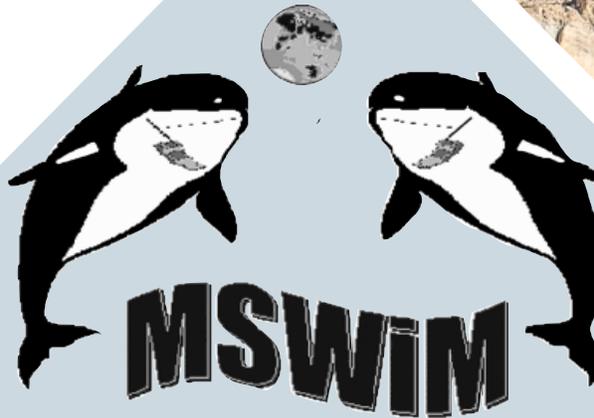
MSWiM '20

Proceedings of the 23rd International ACM Conference on
Modeling, Analysis and Simulation
of Wireless and Mobile Systems

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General Chair:
Monica Aguilar Igartua (Universitat Politecnica de Catalunya, Spain)

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23rd ACM MSWiM 2020 General Chair Welcome

Welcome to the 23rd ACM International Conference on Modelling, Analysis, and Simulation of Wireless and Mobile Systems (MSWiM). This year, we will not be able to enjoy together the warm beaches of Alicante, Spain. MSWiM will exceptionally be held online due to the COVID-19 situation. Over the years, MSWiM has established itself as a leading venue where some of the best research works, trends and directions in the area of modeling and performance evaluation of wireless and mobile systems are presented and discussed.

The 23rd MSWiM has a high-quality scientific program and two distinguished keynotes addressed by the following outstanding experts, Prof. Albert Zomaya from the University of Sydney, Australia, and Prof. Arturo Azcorra from the University Carlos III of Madrid.

The winner of this year's *Reginald G. Fessenden Award* will be announced at the ACM MSWiM 2020 closing session. This Award has been established six years ago and it is granted to a distinguished researcher to recognize excellence and remarkable contributions in research work in the field of Wireless Communications and Mobile Networking.

Along with the main conference program, four symposia will be held: MobiWac, DIVANet, PE-WASUN and Q2SWinet. These symposia have become successful and competitive in their own right, covering new research trends and visionary work within mobile and wireless systems.

Putting together a high-quality conference like MSWiM requires a great team effort. We would like to acknowledge those who have handled the many details related to the event. We appreciate the excellent work done by the TPC Co-Chairs Antonio A.F. Loureiro and Carlo Giannelli, who have brilliantly managed the entire technical program process. We also thank the reviewing work done by the TPC members and external reviewers. A special thanks goes to the whole team who hardly worked for the technical excellence and success of the event, including Rodolfo W. L. Coutinho (Poster/Demo Chair), Mirela Notare (Workshop Chair), Ahmed Mostefaoui (Tutorials Chair), Moayad Aloqaily and Mirela Notare (Publicity Co-Chairs), and Noura Aljeri (Web Chair). In addition, we take the opportunity to highlight our appreciation to the MSWiM Steering Committee for their guidance and support. We also wish to thank our main sponsor, ACM SIGSIM. Finally, many thanks to all of you for your active participation to the MSWiM community; without your continuous support and activities, this event would not have been possible.

We are pleased to welcome you to MSWiM 2020, exceptionally held online this year. The event will be filled with challenging ideas and thought-provoking debates, and we sincerely hope it will provide a fresh overview of the most promising and state-of-the-art directions that the research community is investigating in the field. Welcome to MSWIM 2020!

Mónica Aguilar Igartua
MSWIM'20 General Chair
Universitat Politècnica de Catalunya, Spain

Paolo Bellavista
MSWIM'20 Vice-General Chair
University of Bologna, Italy

23rd ACM MSWiM 2020 Program Chairs' Welcome

The technical program of the 23rd ACM International Conference on Modeling, Analysis, and Simulation of Wireless and Mobile Systems (MSWiM), exceptionally held virtually in November 2020, highlights the high standard of past editions of the conference. In 2020, the call for papers attracted the relevant number of 100 submissions for review in all areas of mobile and wireless systems. The submitted papers came from all over the world, for a total of 32 countries, reflecting the worldwide visibility and the international profile of MSWiM.

Most addressed topics of MSWiM'20 were Wireless Communication and Networks, Network Simulations and Simulators, Performance Evaluation, and Ad Hoc Networks. These topics confirm that the focus of the conference is on modeling and analyzing wireless networks, also based on simulated environments. Other addressed topics such as Vehicular Networks, Edge/Fog Computing, and IoT & Energy demonstrate the relevance of modeling and simulating wireless environments in research fields emerged and affirmed more recently. Such considerations confirm the prominent importance of MSWiM as an international reference point for the research community actively investigating paramount topics ranging from modeling of mobile and wireless systems to their simulation and measurements, also when applied in specific environments such as vehicular networking and Internet of Things.

The submissions included a large number of papers of very high quality, making the selection process difficult and competitive. The members of the Technical Program Committee worked efficiently and responsibly under tight time constraints to produce the reviews (at least 3 independent reviews for any paper) for the final paper selection. In the end, after this rigorous review process, we were able to select 24 regular papers, which correspond to an acceptance rate of 24%. An additional small set of 6 short papers were recommended to be included in the technical program owing to their quality and contribution.

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

- *Platooning on the edge* by Christian Quadri (Università degli Studi di Milano, Italy); Vincenzo Mancuso (IMDEA Networks Institute, Spain); Marco Ajmone Marsan (Politecnico di Torino, Italy); Gian Paolo Rossi (Università degli Studi di Milano)
- *A Mixture Density Channel Model for Deep Learning-Based Wireless Physical Layer Design* by Dolores García Martí (IMDEA Networks Institute, Spain, University Carlos III, Spain); Joan Palacios Beltrán (IMDEA Networks Institute, Spain, University Carlos III, Spain); Jesús Omar Lacruz (IMDEA Networks Institute, Spain); Joerg Widmer (IMDEA Networks Institute, Spain)
- *Revisiting Wi-Fi Performance under the Impact of Corrupted Channel State Information* by Youngwook Son (Seoul National University, Korea); Saewoong Bahk (Seoul National University, Korea)

Based also on presentation quality and on the evaluation of a committee working during the MSWiM'20 conference, the winner among these three papers will be announced at the conference closing event and will be reported in the proceedings of the next edition of the conference (MSWiM'21).

At this point, we take the opportunity of this welcome message to congratulate the winners of the best Regular paper award for MSWiM '19:

SEE: Scheduling Early Exit for Mobile DNN Inference during Service Outage by Zizhao Wang, Wei Bao and Dong Yuan (The University of Sydney, Australia); Liming Ge (University of Sydney, Australia); Nguyen H. Tran and Albert Zomaya (The University of Sydney, Australia)

and the winner for best Short paper award for MSWiM '19:

COLiDeR: A Cross-Layer Protocol for Two-Path Relaying by Raphael Naves and Gentian Jakllari (University of Toulouse, France); Hicham Khalife and Vania Conan (Thales Communications & Security, France); André-Luc Beylot (University of Toulouse, France)

Moreover, MSWiM '20 will host two very interesting keynotes:

- *Lightweight Short-term Photovoltaic Power Prediction for Edge Computing,* Albert Y. Zomaya, University of Sydney, Australia
- *Challenges Towards the Next Generation of Mobile Communications,* Arturo Azcorra, Universidad Carlos III de Madrid, Spain

Finally, let us note that the excellent and very interesting technical program would not have been possible without the dedication of many colleagues. We would like to thank all the members of the Technical Program Committee; special thanks go to all the members of the Organizing Committee and, last but certainly not least, to the General Chair Monica Aguilar Igartua, the Vice General Chair Paolo Bellavista, and the Steering Committee Chair Azzedine Boukerche. Thanks to their dedicated work, we are now able and happy to welcome you to this promising edition of the ACM MSWiM'20, with a vibrant technical program that will certainly attract your interest and stimulate fruitful discussions. Enjoy!

With warm regards,

Antonio A.F. Loureiro
MSWiM'20 Program Co-Chair
Federal University of Minas Gerais, Brazil

Carlo Giannelli
MSWiM'20 Program Co-Chair
University of Ferrara, Italy

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