

2021 16th Annual Conference on Wireless On-demand Network Systems and Services Conference (WONS 2021)

**Klosters, Switzerland
9-11 March 2021**



**IEEE Catalog Number: CFP21361-POD
ISBN: 978-1-6654-4659-4**

**Copyright © 2021, International Federation for Information Processing (IFIP)
All Rights Reserved**

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

| | |
|-------------------------|-------------------|
| IEEE Catalog Number: | CFP21361-POD |
| ISBN (Print-On-Demand): | 978-1-6654-4659-4 |
| ISBN (Online): | 978-3-903176-35-5 |

Additional Copies of This Publication Are Available From:

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

CURRAN ASSOCIATES INC.
proceedings
.com

16th Conference on Wireless On-demand Network Systems and Services (WONS 2021)

Channel/PHY Layer Modeling and Analysis

mmWave on the Road: Investigating the Weather Impact on 60 GHz V2X Communication Channels

Sigrid Dimce (TU Berlin, Germany), Muhammad Sohaib Amjad (TU Berlin, Germany), Falko Dressler (TU Berlin, Germany) 1

Be aware of the capture effect: a measure of its contribution to BLE advertisements reception

Laudin Molina (Institute Mines Telecom / IMT Atlantique & IRISA, France), Élisa Blanchard (Institute Mines Telecom / IMT Atlantique & IRISA, France), Christophe Couturier (IRISA - IMT Atlantique, France), Jean-Marie Bonnin (Institut Mines Telecom / IMT Atlantique & IRISA - Inria, France) 9

Outage Probability Analysis of UAV Assisted Mobile Communications in THz Channel

Sara Farrag (German University in Cairo, Egypt), Engy Aly Maher (German University in Cairo, Egypt), Ahmed E. El-Mahdy (German University in Cairo, Egypt), Falko Dressler (TU Berlin, Germany) 16

V2X: Connected Vehicles

Impact of the MEC Location in Transport Networks on the Capacity of 5G to Support V2X Services

Baldomero Coll-Perales (Universidad Miguel Hernandez de Elche (UMH), Spain), Maria del Carmen Lucas-Estañ (Universidad Miguel Hernandez, Spain), Chang-Heng Wang (InfoTech Labs, Toyota Motor North America R&D, USA), Javier Gozalvez (Universidad Miguel Hernandez de Elche, Spain), Takayuki Shimizu (Toyota Motor North America, Inc., USA), Sergei Avedisov (Toyota Motor North America R&D, InfoTech Labs, USA), Miguel Sepulcre (Universidad Miguel Hernandez de Elche, Spain), Takamasa Higuchi (Toyota Motor North America R&D, USA), Bin Cheng (Toyota Motor North America R&D, USA), Akihiko Yamamuro (Toyota Motor Corporation, Japan), Onur Altintas (Toyota Motor North America R&D, InfoTech Labs, USA) 24

GRETEL: Graph-based Street Coverage Calculation for Vehicle-to-Infrastructure Communication

Michael Niebisch (University of Erlangen-Nürnberg, Germany), Reinhard German (University of Erlangen-Nürnberg, Germany, Germany), Anatoli Djanatliev (University of Erlangen-Nürnberg, Germany, Germany) 32

A Critical Assessment of CV2X Resource Allocation Scheme for Platooning Applications

Michele Segata (Free University of Bolzano, Italy), Piermaria Arvani (Valtellina S.p.A., Italy), Renato Lo Cigno (University of Brescia, Italy) 39

WiFi and IoT: Novel Ideas

Use of a Weighted Conflict Graph in the Channel Selection Operation for Wi-Fi Networks

Lafdal Abdelwedoud (Université Claude Bernard Lyon 1 - LIP, France), Anthony Busson (Université Claude Bernard Lyon 1 & Laboratoire de l'Informatique du Parallelisme, France), Isabelle Guérin Lassous (Université Claude Bernard Lyon 1 - LIP, France) 47

On Phase Offsets of 802.11ac Commodity WiFi

Anatolij Zubow (Technische Universität Berlin, Germany), Piotr Gawłowicz (Technische Universität Berlin, Germany), Falko Dressler (TU Berlin, Germany) 51

| | |
|--|----|
| <i>Impact of Bushfire Dynamics on the Performance of MANETs</i> | |
| Ameer Arsalaan (The University of Adelaide, Australia), Hung Xuan Nguyen (University of Adelaide, Australia), Mah-Rukh Fida (Simula Metropolitan Centre for Digital Engineering, Norway) | 55 |
| <i>A Simple Decentralized Timeslot Synchronization Algorithm for Large-Scale Wireless IoT Networks</i> | |
| Gurusanthosh Pabbisetty (Toshiba Corporation, Japan), Hiroki Mori (Toshiba Corporation, Japan) | 59 |

Learning in Wireless Networking

| | |
|--|----|
| <i>Anticipating Mobile Radio Networks Key Performance Indicators with Transfer Learning</i> | |
| Claudia Parera (University of Luxembourg, Luxembourg), Alessandro E. C. Redondi (Politecnico di Milano, Italy), Matteo Cesana (Politecnico di Milano, Italy), Qi Liao (Nokia Bell Labs, Germany), Ilaria Malanchini (Nokia Bell Labs, Germany) | 63 |
| <i>An RL Approach to Radio Resource Management in Heterogeneous Virtual RANs</i> | |
| Sharda Tripathi (Birla Institute of Technology and Science, Pilani, India), Corrado Puligheddu (Politecnico di Torino, Italy), Carla Fabiana Chiasserini (Politecnico di Torino, Italy) | 71 |
| <i>Learning to Fairly Classify the Quality of Wireless Links</i> | |
| Gregor Cerar (Jozef Stefan Institute & Jožef Stefan International Postgraduate School, Slovenia), Halil Yetgin (Jozef Stefan Institute, Slovenia & Bitlis Eren University, Turkey), Mihael Mohorcic (Jozef Stefan Institute & Jozef Stefan International Postgraduate School, Slovenia), Carolina Fortuna (Jozef Stefan Institute, Slovenia) | 79 |

Measurement and Localization

| | |
|--|-----|
| <i>Non Intrusive Wi-Fi CSI Obfuscation Against Active Localization Attacks</i> | |
| Marco Cominelli (University of Brescia, Italy), Francesco Gringoli (CNIT/University of Brescia, Italy), Renato Lo Cigno (University of Brescia, Italy) | 87 |
| <i>Cooperative Localization for the Internet of Things</i> | |
| Marco Marinho (Halmstad University, Sweden), Alexey Vinel (Halmstad University, Sweden), Edison Pignaton de Freitas (Federal University of Rio Grande do Sul, Brazil), Stephanie Alvarez Fernandez (Halmstad University, Sweden) | 95 |
| <i>WiFiMon: Combining Crowdsourced and Probe Measurements for Wi-Fi Performance Evaluation</i> | |
| Nikos Kostopoulos (National Technical University of Athens, Greece), Sokol Gjeçi (RASH, Albania), Kurt Baumann (SWITCH, Switzerland), Pavle V Vučetić (University of Belgrade, Serbia), Kostas Stamos, Mr (University of Patras, Greece) | 100 |

Novel Applications and Network Optimization

| | |
|---|-----|
| <i>QLRan: Latency-Quality Tradeoffs and Task offloading in Multi-node Next Generation RANs</i> | |
| Ayman Younis (Rutgers University, USA), Brian Qiu (Rutgers University, USA), Dario Pompili (Rutgers University, USA) | 108 |
| <i>Backbones for Internet of Battlefield Things</i> | |
| Dimitrios Papakostas (University of Thessaly, Greece), Theodoros Kasidakis (University of Thessaly, Greece), Evangelia Frangkou (University of Thessaly, Greece), Dimitrios Katsaros (University of Thessaly, Greece) | 116 |

| | |
|--|-----|
| <i>Enabling Opportunistic Low-cost Smart Cities By Using Tactical Edge Node Placement</i> | |
| Oluwashina Madamori (University of Kentucky, USA), Esther Max-Onakpoya (University of Kentucky, USA), Gregory Erhardt (University of Kentucky, USA), Corey E Baker (University of Kentucky, USA) | 124 |
| <i>Traffic-Based Adjustable Discontinuous Reception Mechanism with Bounded Delay</i> | |
| Mohammad Reza Ghavidel Aghdam (University of Tabriz, Iran), Bahram Rahmani (University of Tabriz, Iran), Reza Abdolee (CSU Channel Islands, Camarillo, CA, USA) | 132 |