2017 13th Annual Conference on Wireless On-demand Network Systems and Services (WONS 2017)

Jackson, Wyoming, USA 21-24 February 2017



IEEE Catalog Number: ISBN:

CFP17361-POD 978-1-5090-4377-4

Copyright $\ @$ 2017, 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:
 CFP17361-POD

 ISBN (Print-On-Demand):
 978-1-5090-4377-4

 ISBN (Online):
 978-3-901882-88-3

Additional Copies of This Publication Are Available From:

Curran Associates, Inc 57 Morehouse Lane Red Hook, NY 12571 USA Phone: (845) 758-0400

Fax:

E-mail: curran@proceedings.com
Web: www.proceedings.com

(845) 758-2633



Table of Contents

S1: Avoiding Interference & Security/Privacy	
A Dynamic and Autonomous Channel Selection Strategy for Interference Avoidance in 802.11	1
Francesco Maturi, Francesco Gringoli and Renato Lo Cigno	
On the Feasibility of Collision Detection in Full-Duplex 802.11 Radio	9
TraceMixer: Privacy-Preserving Crowd-Sensing sans Trusted Third Party Jan Henrik Ziegeldorf, Martin Henze, Jens Bavendiek and Klaus Wehrle	17
S2: Enabling Opportunistic Services	
On the Sensitivity of Geo-based Content Sharing to Location Errors Joerg Ott, Ljubica Pajevic, Ermias Andargie Walelgne, Ari Keränen, Esa Hyytiä and Jussi Kangasharju	25
The More You Speak, the Less You Hear: On Dynamic Announcement Intervals in Wireless On-demand Networks	33
Lars Baumgärtner, Pablo Graubner, Jonas Höchst, Anja Klein and Bernd Freisleben	
Promotion of Cooperation in Public Goods Game by Socialized Speed-Restricted Movement	41
Pengyuan Du and Mario Gerla	
Offloading on the Edge: Performance and Cost Analysis of Local Data Storage and Offloading in HetNets	49
S3: Energy Awareness	
Active Energy Management for Harvestin Enabled Wireless Sensor Network Nouman Ashraf, Waqar Asif, Hassaan Khaliq Qureshi and Marios Lestas	57
Energy-efficient Analog Sensing for Large scale, High-density Persistent Wireless Monitoring	61

Energy-aware Restricted Access Window Control with Retransmission Scheme for IEEE 802.11ah (Wi-Fi HaLow) based Networks	69
S4: Novel/Emerging Technologies	
On the Application of LoRa LPWAN Technology in Sailing Monitoring System Lingling Li, Jiuchun Ren and Qian Zhu	77
An Alternative Congestion Control using an Enhanced Contention Based Forwarding for Vehicular Networks	81
Efficient mmwave wireless backhauling for dense small-cell deployments Po-Han Huang and Konstantinos Psounis	88
An SDN Architecture for Under Water Search and Surveillance	96
S5: Challenges in IoT/WSN	
Dynamic RPL for Multi-hop Routing in IoT Applications Harith Yahya, Hayder Al-Kashoash, Yaarob Al-Nidawi, Maria Quezada Mosquera and Andrew H. Kemp	100
A Handheld Diagnostic System for 6LoWPAN Networks	104
Designing Sensor Networks to Protect Primary Users in Spectrum Access Systems Matthew A Clark and Konstantinos Psounis	112
S6: PHY and MAC	
MuTrans: A Multi-Channel Network Coding Approach to Mobile Data Collection	120
Inter-operator Dynamic Spectrum Sharing: A Stochastic Optimization Approach Satya Krishna Joshi, Kapuruhamy Badalge Shashika Manosha, Marian Codreanu and Matti Latva-aho	124

An SMDP Approach to Optimal PHY Configuration in Wireless Networks	128
Ensuring Quality Services on WiFi Networks for Offloaded Cellular Traffic Gianluigi Pibiri, Ciaran Mc Goldrick and Meriel Huggard	136
S7: Models and Optimizations	
Enhancing the Solvability of Network Optimization Problems through Model Augmentations	144
Novel Combinatorial Results on Downlink MU-MIMO Scheduling with applications Yasaman Ghasempour, Narayan Prasad, M. Khojastepour and Sampath Rangarajan	152
Unnecessary Handover Minimization in Two-Tier Heterogeneous Networks Mohanad Alhabo and Li Zhang	160
S8: Optimizations and Economics	
Collaborative Multi-bitrate Video Caching and Processing in Mobile-Edge Computing Networks	165
Competition and Investment in On-Demand Networking Technology Chang Liu, Yuanzhang Xiao, Ermin Wei and Randall A Berry	173
Distributed Proactive Caching in a Group of Selfish Nodes	181