2023 26th International Symposium on Wireless Personal Multimedia Communications (WPMC 2023)

Tampa, Florida, USA
19-22 November 2023

IEEE Catalog Number: CFP23WPC-POD
ISBN: 979-8-3503-0891-4

Copyright © 2023 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. 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:	CFP23WPC-POD
ISBN (Print-On-Demand):	979-8-3503-0891-4
ISBN (Online):	979-8-3503-0890-7
ISSN:	1347-6890

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

TABLE OF CONTENTS

Coexistence of 5G-FSS Analysis on Adjacent Channel Interference in Indonesia with LNB Replacement 1
Ignatius Daru Kristiadi, Fachrul Reiza Medina, Rahmattio Fa'Is Baihaqi

Distributed Multi-Agent Interference Coordination in Native AI Enabled Multi-Cell Networks for 6G 8
Xueqi Li, Qimei Cui, Borui Zhao, Xuefei Zhang, Botao Jiang, Xiaofeng Tao

Federated Learning Composite Ad Hoc Interference Maps 14
Rafael Kaliski, Ingrid Ardine Winata

User Location Uncertainty in RIS-Aided Channel Optimization 20
Sanaz Kianoush, Laura Dossi, Roberto Nebuloni, Alessandro Nordio, Stefano Savazzi

Radio Resource Allocation in Low-To Medium-Load Regimes for Energy Minimization with C-RAN 27
Tania Alhajj, Nicolas Huin, Karine Amis, Xavier Lagrange

Traffic Load Prediction and Power Consumption Reduction for Multi-Band Networks 34
Ndolane Diouf, Cesar Vargas Anamuro, Cedric Gueguen, Massa Ndong, Kharouna Talla, Xavier Lagrange

Multi Stage Log-Likelihood Ratio Estimation with Ordering in a Non-Linear Receiver for Overloaded MIMO Systems 40
Satoshi Denno, Shuhei Manabe, Yafei Hou

Inter-Slot Frequency Hopping with DMRS Bundling for NR Coverage Enhancement 46
Nanxi Li, Hang Yin, Bowen Wang, Jianchi Zhu

Optimal Deep Learning Model for UAVs: A Case Study 51
Chandan Kumar, Ali Jannesari

Slicing 5G Core Network Based on the Ryu SDN Controller for Everything as a Service 58
Pantelimon-Teodor Tivig, Eugen Borcoci, Marius-Constantin Vochin, Indika A. M. Balapuwaduge, Frank Y. Li

Standardizing Personal Medical Data in 5G and 6G Era 64
Ana Koren, Ramjee Prasad

Campus-Based Full-Scale and Portable Open-Source 5G SA Networks: Prototyping and Experiments 70
Kamar Mubasier, Frank Y. Li, Jon Anders S. Øgaard, Marius-Constantin Vochin

Using Authenticated Encryption for Securing Controller Area Networks in Autonomous Mobile Platforms 76
Amar Rasheed, Mohamed Baza, Mohammad Khan, Narashimha Karpoor, Cihan Varol, Gautam Srivastava

Physical-Layer Authentication Over Spatially Correlated MIMO Channels 83
Kenta Miwa, Kengo Ando, Giuseppe Thadeu Freitas De Abreu, Koji Ishibashi

Enhancing Quick Discovery of Neighbor Devices in Distributed D2D with Adaptive Control at Receiver 89
Huan-Bang Li, Takeshi Matsumura

Radar Sensing in OFDM Systems with Bandwidth Aggregation 95
Fatemeh Hamidi-Sepehr, Thushara Hewavithana

Testing Black Boxes: Verification and Validation of AI Models in Wireless Communication Systems 101
Chu-Hsiang Huang, Taesang Yoo, Juan Montojo, Chang-Hwa Park, Mohammed Hirzallah

Cramer-Rao Lower Bound Analysis for OTFS and OFDM Modulation Systems 107
Bowen Wang, Jianchi Zhu, Xiaoming She, Peng Chen

A Reliable Antenna Array for the 28GHz mmWave Band in a 5G Massive MIMO Communication 113
Zie Eya Ekolle, Ryuji Kohno, Mohammad Ghavami

Network-Independent and User-Controlled RIS: An Experimental Perspective 119
Emre Arslan, Fatih Kilinc, Ertugrul Basar, Huseyin Arslan

Interpolation Accuracy Evaluation for 3D Radio Environment Maps Construction 125
Antoni Ivanov, Krasimir Tonchev, Vladimir Poulkov, Agata Manolova, Atanas Vlahov

Path Power Prediction Improving Scheme for Millimeter-Wave Using LSTM Under Indoor Environments 132
Takato Yamazaki, Kohei Ohno, Ulf Johannsen, Sonia Heemstra De Groot

C5 and Human Design-A Holistic Approach to Support Childhood Development and Personalization 138
Viktoriya Andersen, Ramjee Prasad

Federated Learning with Packet Losses 142
Angelo Rodio, Giovanni Neglia, Fabio Busacca, Stefano Mangione, Sergio Palazzo, Francesco Restuccia, Ilenia Tinnirello

SDR-Based 5G NR System Verification with Video Transmission for Wireless Emulator 148
Takeshi Matsumura, Hikaru Kawasaki, Kazuo Ibuka

Fundamental Field Experiments of OFDMA Systems Using VHF-Band in Urban Area 154
Hiroshi Harada

Hash-Based Function Call Graph Fusion Method for IoT Malware Detection 159
Gao-Yu Lin, Ming-Huang Lin, Bing-Kai Hong, Shin-Ming Cheng

A Novel Random Access for Ultra-Low Latency Communications 165
Yousef Alanezi, Kwang-Cheng Chen, Zixiang Nie

MQTT Protocol Based IoT Solution for Voice-Controlled Smart Home 171
Soumya Ranjan Samal, Shuvabrata Bandopadhaya, Amarjit Roy, Annapurna Mishra, Albena Mihovska, Vladimir Poulkov

Dynamic Multi-Tenant RAN Slicing for eMBB, URLLC, and mMTC in 5G Networks 176
Zeina Awada, Melhem El Helou, Kinda Khawam, Samer Lahoud

Towards Transmission Rate Control Considering the Effects of the Surrounding Environment 183
Fumiko Ohori, Satoko Itaya, Mitsuru Uesugi, Akihiro Amagai, Jun Hasegawa, Toru Osuga, Takeshi Matsumura, Hirozumi Yamaguchi

Indoor and Outdoor Measurement Campaign for Unlicensed 6 GHz Operation with Wi-Fi 6E 189
Seda Dogan-Tusha, Armed Tusha, Hossein Nasiri, Muhammad Iqbal Rochman, Monisha Ghosh

Cross-Layer Flow Control for Dual-Link Wireless Access of AGV in Factory 195
Toru Osuga, Fumiko Ohori, Satoko Itaya, Takeshi Matsumura

Packet-Level Index Modulation Under Duty Cycle Constraints 201
Ryogo Oya, Shinichiro Kakuda, Takeo Fujii, Osamu Takyu, Mai Ohta, Koichi Adachi

An Adaptive Duplex Switching Scheme that Exploits Interference Statistics for Hybrid-Duplex Cellular Networks 207
Shi-Ming Lu, Hsuan-Jung Su, Ming-Ting Chen

Symphony of Sensors: The Harmonious Art of Massive Data Generation by Devices 213
Ragini Mishra, Albena Mihovska, Ramjee Prasad

Research Issues in False Information Broadcasting Rogue Node Detection for Green VANETs 218
Abinash Borah, Anirudh Paranjothi

A CNN-Based Routing Scheme for Minimizing TCP Flow Completion Time in SD-DCNs 224
Yingjie Zhou, Mingchun Xu, Yu Chen

An Effective Network Topology Coexistence Scheme for the Low-Energy Wireless Grid Structures in the Green Communication Systems 230
Fumihide Kojima

Multiple Access Technology Using Long-Range Wide-Angle Array Antennas Mounted on High Altitude Platform Station 236
Takashi Matsuda, Ryu Miura, Miho Koshikawa, Jun Suzuki, Tetsumi Takamori, Takeshi Matsumura

A Computer Aided Design Tool for NISQ Logic Synthesis 242
Albert B Dinkins V, Austin Bristow, Kwang-Cheng Chen

User Pairing Method Using Radio Map for Spectrum Sharing Between Non-Terrestrial Networks and Terrestrial Networks 248
Shugo Hirano, Hirofumi Nakajo, Takeo Fujii

GPT for the Metaverse in Smart Cities 254
Ramalingam M, Gokul Yenduri, Mohamed Baza, Gautam Srivastava, Deepti Raj G, Chemmalar Selvi G, Thippa Reddy Gadekallu

Quantum Computing Technologies to Accelerate 6G and CONASENSE Integration Beyond 2030 260
Paulo Sergio Rufino Henrique, Albena Dimitrova Mihovska, Ramjee Prasad

Validation of a CommSense Based ISAC System Using In-Situ mmWave Propagation Model 266
Sandip Jana, D. Kiran Kumar Reddy, Amit Kumar Mishra, Mohammed Zafar Ali Khan

A Lite-SVM Based Semantic Search Model for Bigdata Analytics in Smart Cities 272
Kayam Saikumar, K Srinivas Rao, Mohamed Baza, Amar Rasheed, Akundi Sai Hanuman, Ahmed J. Obaid

Closed-Loop Security Management for Developing O-RAN Infrastructure and B5G RIC Applications 278
Yi-Chih Tung, En-Cheng Liou, Chung-Hsiang Cheng, Tzu-Hang Lin, Shu-Min Chuang

Interference Analysis and Mitigation for UAV Communications in Drone Corridors..... 282
Cameron Ellis, Minglong Zhang, Vuk Marojevic

On Manipulating Routing Table to Realize Redirect Attacks in O-RAN by Malicious xApp..... 288
Chi-Heng Tseng, Cheng-Feng Hung, Bing-Kai Hong, Shin-Ming Cheng

Quantum Wireless Imaging and Remote Sensing - State-Of-The-Art Technologies and Opportunities..... 293
Brian Sisco, Kwang-Cheng Chen

Security-Aware Ad Hoc Networking Protocol for Vehicular Safety Systems 299
Danai Chasaki, David Randazzo, Sarvesh Kulkarni

Performance Evaluation of Congestion Control for QUIC in Asymmetrical Latency Environment..... 305
Hikaru Kawasaki, Kazuo Ibuka, Homare Murakami, Takeshi Matsumura

Author Index