2026 IEEE 27th International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoWMoM 2026)

Bologna, Italy
16-19 June 2026

IEEE Catalog Number: CFP26WOW-POD
ISBN: 979-8-3315-6300-4

IEEE Advancing Technology for Humanity

Copyright © 2026, IEEE

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:	CFP26WOW-POD
ISBN (Print-On-Demand):	979-8-3315-6300-4
ISBN (Online):	979-8-3315-6299-1
ISSN:	2770-0526

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

Fast-Reconfiguring Liquid-Crystal RIS for Pervasive Wireless Networks 1
Luis F. Abanto-Leon, Robin Neuder, Waqar Ahmed, Alejandro Jimenez Saez, Vahid Jamali, Arash Asadi

Efficient Estimation of Three-Way Partial Volume under the ROC Surface for Multi-Class Disease Staging 12
Vijay Yadav

A Novel Framework for Fair Resource Allocation in RIS-Enabled Networks 19
Alexandros I. Papadopoulos, Antonios Lalas, Konstantinos Votis, Leandros Tassiulas, Christos Liaskos

Car Penetration Loss Assessment and Modeling: A Novel Model Based on an Extensive Experimental Campaign in the FR1 Band 29
Simona Valbonesi, Claudia Carciofi, Marina Lotti, Andrea Garzia

LiDAR-Aided Agile Beam Management in Millimeter-Wave Urban Micro-Cell Networks 38
Enrico Tosi, Marina Petrova, Ljiljana Simić

CAViAR: Quality-Aware Vision-and-Radio Fusion for Relative Range Estimation Among Collaborative Autonomous Agents 48
Gaurav Shinde, Anuradha Ravi, Jared Lewis, Andre Harrison, Henry Gardiner, Mohammad Saeid Anwar Shadman Sakib, Jade Freeman, Nirmalya Roy

WIP: Environment-Aware Indoor LoRaWAN Ranging Using Path Loss Model Inversion and Adaptive RSSI Filtering 58
Nahshon Mokua Obiri, Kristof Van Laerhoven

Unlocking Vehicular Communications: Scaling V2X Traffic on 5G SA 63
Antonin Le Floch, Rahim Kacimi

Experimental Validation of Adaptive Rate Control for Decentralized Sensing Applications 73
Farah Hemeida, Vincenzo Auricchio, Lars Wischhof

Traffic Steering and Service Placement for Metaverse Social Applications in 5G Backhaul Networks 83
Eleonora Borgia, Raffaele Bruno

ForeSight: Context-Aware Load Balancing for Distributed Edge Video Analytics 93
Jingxiang Gao, Hend K. Gedawy, Khaled A. Harras

Multi-TAB: Multi-View Inference at the Edge with Resource-Aware Split Computing 103
Tanzil B. Hassan, Kevin S. Chan, Fikadu Dagefu, Jonathan Ashdown, Flavio Esposito, Francesco Restuccia

CoST: An Efficient and Error-Bounded Compression Algorithm for Streaming Trajectories 113
Zihang Xu, Qinqin Zhou, Zheng Li, Ruiyuan Li, Huajun He, Yu Zheng

GreenFLag: A Green Agentic Approach for Energy-Efficient Federated Learning 123
Theodora Panagea, Nikolaos Koursioumpas, Lina Magoula, Ramin Khalili

WIP: Large Language Models for Network Automation: A Hierarchical Retrieval-Augmented Approach 132
Yasmine Ouni, Kamal Singh, Antoine Gourru, Farouk Mhamdi

Distilling LLM Reasoning into Lightweight Neural Policies for Multi-Agent UAV Coordination 136
Suramya Pokharel, Eyuphan Bulut

Say the Mission, Execute the Swarm: Agent-Enhanced LLM Reasoning in the Web-of-Drones 146
Andrea Iannoli, Lorenzo Gigli, Luca Sciullo, Angelo Trotta, Marco Di Felice

WIP: Ad-Hoc Network Serverless Scheduling in an Industrial Case Study: Drone Swarms in Disaster-Struck Urban Environments 156
S. Giallorenzo, A. Trotta, F. Bernardi, R. Morelli, A. Remus, A. Santopaolo, F. Schiano, G. Zavattaro

COHORT: Hybrid RL for Collaborative Large DNN Inference on Multi-Robot Systems Under Real-Time Constraints 160
M. S. Anwar, A. Ravi, I. Ghosh, G. Shinde, C. Busart, N. Roy

Split CNN Inference on Networked Microcontrollers 170
Junyu Lu, Shashwath Suresh, Hao Liu, Qi Hong, Qing Wang

CLEAR: Scheduling of Multi-Model Mobile Workloads on Chiplet Edge Platforms 180
C. Singhal, M. Mendula, F. Malandrino, M. Levorato, C. F. Chiasserini

Joint LoRa and LR-FHSS Resource Allocation Optimization in Direct-to-Satellite IoT Networks 190
Diego Maldonado, Megumi Kaneko, Juan A. Fraire, Alexandre Guitton, Oana Iova, Hervé Rivano

MAQS: Model-Augmented Q-Learning Scheduler for Energy-Harvesting IoT Devices 200
Brendan J. Mackenzie, Max Sebrechts, Koustabh Dolui, Sam Michiels, Danny Hughes

Soil Moisture Sensing through Phase Measurements in Analog Backscatter Systems 211
Vincenzo Gentile, Domenico Giustiniano, Dayrene Frometa

A Fault-Tolerant Service Placement Approach with Near Real-Time Service Recovery for Edge-Cloud Continuum 221
Mohammadsadeq Garshasbi Herabad, Javid Taheri, Calin Curescu

HeDeEFV: Heterogeneity-Aware Delay-Constrained Energy Efficient VNF Placement 231
Federico Casu, Carlo Vallati, Antonio Virdis

A Centralized Framework for Fair and Efficient Computing-Aware Traffic Steering in Edge-Cloud Environments 241
Francesco Taverna, Laura Lemmi, Carlo Puliafito, Enzo Mingozzi, Antonio Virdis

SigBooster: Enabling Low-Latency and Flexible RAN-CN Signaling with Metadata-Aware Parsing 251
Shiyi Liu, Yanbiao Li, Xin Wang, Kaifei Peng, Xinyi Zhang, Chenhui Yu, Zhuoran Ma, Gaogang Xie

EtherMark: A Novel Architecture for Mobile-Traffic Dataset Creation with Perfect Labeling 262
Giovanni Pimpinella, Angelo Spognardi

Columnar Packet Traces for Scalable Encrypted-Internet Measurement 272
Pablo Rojo, Juan Marcos Ramirez, Vincenzo Mancuso, Antonio Fernández Anta

Can Energy Communities Help in Greening Radio Access Networks? An Analytical Study 283
A. Anggraito, D. Olliaro, M. Meo, M. Sereno, M. Ajmone Marsan, A. Marin

Fine-Tuned LLMs for Flow-Based Intrusion Detection in Smart Agriculture via Semantic Augmentation 293
Jinkwon Lee, Younjun Seong, Hayoung Oh

GUARD: GNN-Guided Adaptive Routing with DRL in Hybrid FSO/RF SAGIN 304
Peijun Hou, Yue Zhang, Nan Cen

Design and Implementation of a PID-Controlled Quadcopter with LoRa-Based Long-Range Communication 314
Abdelsalam Masoud, Hassan Aldeeb

XGBoost with Temporal Features for Intra-Cluster Uplink Throughput Prediction in 3D Mobile Hierarchical FANET Scenarios 320
Ailei Huang, Lingyun Lu, Mingbo Zhang, Yixuan Li

Automated Security Compliance Reporting of Internet of Things Devices: A Literature Review 326
Waliur Rahman, Biplob Ray, Nahina Islam

Vision-Language Models for UAV-Based Wildfire Monitoring: A Comparative Analysis of BLIP-2 and LLaVA 336
Amrithaa Thuvakaran, Pirunthavi Wijikumar, Shouthiri Partheepan, Jahan Hassan, Biplob Ray

Sustainable Livestock Monitoring with UAV-Assisted Energy-Harvesting IoT Sensors 342
Sayed Amir Hoseini, Pushpika Hettiarachchi, Pirunthavi Wijikumar, Jahan Hassan, Biplob Ray

WIP: AI Lifecycle Management for Satellite-Augmented UAV Mobility in 6G Networks 348
Shama Noreen, Hans D. Schotten

GNSS Time is Fragile: A Large-Scale Measurement Study Under Mobility and Intentional Interference 352
Jan Marius Evang, Jameel Ali

Performance Optimization for Data Computing in IoT Based on UAVs and HAP-Enabled MEC System 358
Meng Li, Haoyu Wan, F. Richard Yu, Ruizhe Yang, Enchang Sun, Zhuwei Wang

ADPS: Adaptive Precoding Selection Scheme for Time-Critical Multi-Radio Access Technology 5G NR Heterogeneous IoT Networks 364
Kanwalinderjit Kaur, Priyanshu Luhar

Towards Diagnosable TSN: Preliminary Fault Localization Using Timing and Replication Observables 370
Mohamed Seliem, Utz Roedig, Cormac Sreenan, Dirk Pesch

WIP: Energy-Efficient LLM-Based Serving Cluster Formulation in Cell-Free Massive MIMO 376
Marcin Hoffmann, Pawel Kryszkiewicz

Data-Driven Modeling of Energy Management Statuses and Statistical Evaluation of Coverage, Reliability and Time Metrics 380
Sebastian Siegl, Kai-Steffen Hielscher

Towards Energy-Efficient Digital Twins for Multi-Microgrid Systems 386
Pascaline Dagher, Leo Mendiboure, Johann Bourcier, Mikel Celaya-Echarri, François Fouquet

Where Should Federated Learning Run? Design Rules for CCAM Cooperative Perception 392
Mohamed Coulibaly, Leo Mendiboure, Hasnaa Aniss, Marc Lacoste, Sylvain Allio, Hugues Oudeville Fabien Battello

Zone-Based Joint Camera-Kiosk Analytics for Smart Retail Insights 398
Hassan Moin, Vahid Abolghasemi, Mohammad Hossein Anisi

Semantic First, Bits Later: Predictive Latent Transport for Smart-City Edge Media 404
Quazi Mamun, Manoranjan Paul

Constraint-Guided Probabilistic Digital Twin Based Microclimate Forecasting Using Latent Stochastic Dynamics 410
Omair Ashraf, Luciano Bononi, Muhammad Waqas Arshad, Claudio Gambetti, Gabriele Monti Usman Adeel

A Learning-Based Resource Scheduling Strategy in Air-Ground Integrated Network (AGIN) 416
Muhammad Awais, Haris Pervaiz, Wenjuan Yu, Qiang Ni

Uncertainty in Wind Energy Dynamics: A Bayesian Analysis of Complex System Relationships 422
Khansa Ismail, Gagangeet Singh Aujla

SPACE: Smart Priority-Aware Congestion Elimination in Urban Traffic Systems 428
Amritpal Singh, Prabhjot Kaur Chahal, Nauman Aslam, Rana Muhammad Sohaib, Umit Demirbaga

Design Space Exploration of Edge AI for Assistive Vision on Low-Cost Embedded Systems 434
N. Prasad, D. Patel, G. Grewal, S. Areibi

The Big Inference Blueprint: A Post-Big Data Epistemology for AI in Healthcare 440
Marco Roccetti

MyPhysio: An End-to-End IoT Platform for Remote Physiotherapeutic Monitoring 446
Milena Mazza, Alice Bonora, Alfonso Esposito, Federico Montori, Ivan Zyrianoff