

2024 IEEE 30th International Symposium on Local and Metropolitan Area Networks (LANMAN 2024)

**Boston, Massachusetts, USA
10-11 July 2024**



**IEEE Catalog Number: CFP24MAN-POD
ISBN: 979-8-3503-5210-8**

**Copyright © 2024 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:	CFP24MAN-POD
ISBN (Print-On-Demand):	979-8-3503-5210-8
ISBN (Online):	979-8-3503-5209-2
ISSN:	1944-0367

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

2024 IEEE 30th International Symposium on Local and Metropolitan Area Networks (LANMAN)

Posters and Demos

<i>Automated Private 5G Network Planning for Professional Industries</i>	
Melina J. Geis (TU Dortmund University, Germany), Caner Bektas (TU Dortmund University, Germany), Stefan Böcker (TU Dortmund University, Germany), Christian Wietfeld (TU Dortmund University, Germany)	1
<i>On Link-level Performance of Passive IRS-boosted Indoor mmWave Communications and Road Ahead</i>	
Simon Häger (TU Dortmund University, Germany), Marco Danger (TU Dortmund University, Germany), Stefan Böcker (TU Dortmund University, Germany), Christian Wietfeld (TU Dortmund University, Germany)	3
<i>Demo: Creating Large-Scale Digital Twins for the Wireless Spectrum Through a Communication Link</i>	
Clifton P Robinson (Northeastern University, USA), Pedram Johari (Northeastern University, USA), Tommaso Melodia (Northeastern University, USA)	5
<i>Experimental Evaluation for TCP/IP Communication Performance in Multi-hop Private LoRa Network</i>	
Eisho Aramaki (Kyushu Institute of Technology, Japan), Daiki Nobayashi (Kyushu Institute of Technology, Japan), Kazuya Tsukamoto (Kyushu Institute of Technology, Japan), Takeshi Ikenaga (Kyushu Institute of Technology, Japan)	7

SESSION 1: Security and Reliability

<i>A Method for Low-Latency Secure Multiple Access</i>	
Yingbo Hua (University of California, Riverside, USA), Md Saydur Rahman (University of California Riverside, USA), Ananthram Swami (DEVCOM Army Research Laboratory, USA)	9
<i>IoT Haven: An Online Defense System to Mitigate Remote Injection Attacks in Trigger-action IoT Platforms</i>	
Md Morshed Alam (University of North Carolina at Charlotte, USA), A B M Mohaimenur Rahman (University of North Carolina at Charlotte, USA), Weichao Wang (University of North Carolina at Charlotte, US, USA)	15
<i>Towards the Detection of Unobservable Losses in Real-Time Communications</i>	
Tailai Song (Politecnico di Torino, Italy), Paolo Garza (Politecnico di Torino, Italy), Michela Meo (Politecnico di Torino, Italy), Maurizio M. Munafò (Politecnico di Torino, Italy)	21

SESSION2: 5G/6G

<i>Downlink STBC-GSSK and STBC-UAV Assisted NOMA for 6G and Beyond</i>	
Anindya Bal (University of Hawaii at Manoa, USA), Haofan Cai (University of California Santa Cruz, USA)	27
<i>Assessing the energetical cost of 5G softwarization</i>	
Aude Jean-Baptiste (LAAS-CNRS, France), Philippe Owezarski (LAAS-CNRS, France), Pascal Berthou (CNRS/LAAS - Université de Toulouse, France), Isabelle Silvain (LAAS-CNRS, France)	33
<i>Early-Exit meets Model-Distributed Inference at Edge Networks</i>	
Marco Colocresce (UIC, USA), Erdem Koyuncu (University of Illinois at Chicago, USA), Hulya Seferoglu (University of Illinois at Chicago, USA)	39

SESSION3: Private Networks

<i>AI-driven Planning of Private Networks for Shared Operator Models</i>	
Melina J. Geis (TU Dortmund University, Germany), Caner Bektas (TU Dortmund University, Germany), Stefan Böcker (TU Dortmund University, Germany), Christian Wietfeld (TU Dortmund University, Germany)	45
<i>Custom Design and Experimental Evaluation of Passive Reflectors for mmWave Private Networks</i>	
Simon Häger (TU Dortmund University, Germany), Marco Danger (TU Dortmund University, Germany), Karsten Heimann (TU Dortmund University, Germany), Yasin Gümüş (TU Dortmund University, Germany), Stefan Böcker (TU Dortmund University, Germany), Christian Wietfeld (TU Dortmund University, Germany)	52

SESSION4: LAN/WLAN

<i>WiHound: Target Tracking with ISAC Using EMLSR in Next-Generation IEEE 802.11 WLANs</i> Ching-Lun Tai (Georgia Institute of Technology, USA), Jingyuan Zhang (Georgia Institute of Technology, USA), Douglas Blough (Georgia Institute of Technology, USA), Raghupathy Sivakumar (Georgia Institute of Technology, USA)	58
<i>Characterization of the Beamforming Training Interruption in IEEE 802.11ay Networks</i> Diogo Pereira (Universidade Nova de Lisboa & Instituto de Telecomunicações, Portugal), Rodolfo Oliveira (Nova University of Lisbon, Instituto de Telecomunicações, Portugal), Daniel Benevides da Costa (King Fahd University of Petroleum & Minerals, Saudi Arabia), Hyong Kim (Carnegie Mellon University, USA)	64
<i>Distributed VR: An Analysis of Inter-server Traffic Through a LAN</i> Mahad Ali (University of Central Florida, USA), Murat Yuksel (University of Central Florida, USA)	70

SESSION5: SDN & Cloud

<i>Dynamic Crosstalk-Aware Routing, Modulation, Core, and Spectrum Allocation for Sliceable Demands in SDM-EONs</i> Arash Rezaee (University of Massachusetts Lowell, USA), Ryan J McCann (University of Massachusetts Lowell, USA), Vinod M. Vokkarane (University of Massachusetts Lowell, USA)	76
<i>Multi-Criteria Handover in SDN-based Multi-RAT Networks</i> Pavan Kumar Mangipudi (University of Florida, USA), Sharon Boamah (University of Florida, USA), Lorenz Carvajal (University of Florida, USA), Janise McNair (University of Florida, USA)	82
<i>Measurement of Cloud-based Game Streaming Systems Competing with DASH Flows</i> Xiaokun Xu (Worcester Polytechnic Institute, USA), Mark Claypool (Worcester Polytechnic Institute, USA)	88

SESSION6: Transport Protocols

<i>Improving QUIC Slow Start Behavior in Wireless Networks with SEARCH</i> Amber K Cronin (Worcester Polytechnic Institute, USA), Maryam Ataei Kachooei (Worcester Polytechnic Institute, USA), Jae Chung (Viasat, USA), Feng Li (Viasat, USA), Benjamin Peters (Viasat, USA), Mark Claypool (Worcester Polytechnic Institute, USA)	94
<i>Z-stack: A High-performance DPDK-based Zero-copy TCP/IP Protocol Stack</i> Anvaya B. Narappa (University of California, Riverside, USA), Federico Parola (Politecnico di Torino, Italy), Shixiong Qi (University of Kentucky, USA), K. K. Ramakrishnan (University of California, Riverside, USA)	100
<i>Hercules: Heterogeneous Requirements Congestion Control</i> Neta Rozen-Schiff (Network Time Foundation, USA), Leon Bruckman (Huawei, Israel), Amit Navon (Check Point, Israel), Itzcak Pechtalt (Unifabrix, Israel)	106