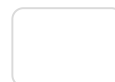


ITNAC 2026



[Conference](#) » Program

2026 IEEE 36th International Telecommunication Networks and Applications Conference (ITNAC) Program



[S1](#): The last paper presentation ends before (10:20) the session end time of 10:30.



[S2](#): The last paper presentation ends before (10:20) the session end time of 10:30.



[S4](#): The last paper presentation extends beyond (15:30) the session end time of 15:00.



[S5](#): The last paper presentation ends before (16:50) the session end time of 17:00.



[S6](#): The last paper presentation ends before (16:50) the session end time of 17:00.



[S7](#): The last paper presentation ends before (10:20) the session end time of 10:45.



[S8](#): The last paper presentation ends before (10:40) the session end time of 10:45.



[S10](#): The last paper presentation extends beyond (11:00) the session end time of 10:30.



[S9](#): The last paper presentation extends beyond (11:00) the session end time of 10:30.



[S13](#): The last paper presentation ends before (16:50) the session end time of 17:00.



[S14](#): The last paper presentation ends before (16:50) the session end time of 17:00.

Tuesday, November 24

Tuesday, November 24 14:30 - 16:30

WR: Welcome Reception

Room: Level 2, The Oxford Scholar (RMIT Building 81)

Wednesday, November 25

Wednesday, November 25 8:30 - 9:00

R1: Registration

Wednesday, November 25 9:00 - 10:30

S1: Session 1: Mobile and Wireless Network

Room 19

[**Adaptive-CP Correlation Method for CFO Estimation in 5G NR Systems**](#) 

Maryam Bacha (Western Sydney University, Australia); Qi Cheng (Western Sydney University, Australia); Ranjith Liyanapathirana (Western Sydney University, Australia)

[**Risk-Adaptive Secure Slicing: Dynamic Risk Scoring and Collusion-Aware Resource Allocation for B5G Networks**](#) 

Sameer Ali and Helena Rifà-Pous (Universitat Oberta de Catalunya, Spain)

Hardware Acceleration of Detection Algorithms for Massive MIMO Systems on RISC-V Vector DSPs

Javier Acevedo (Technical University of Dresden, Germany); Patrick Seeling (Central Michigan University, USA); Frank H.P. Fitzek (Technische Universität Dresden & ComNets - Communication Networks Group, Germany)

[**Resilience-Energy Trade-offs in Carrier Messaging Fallback Paths**](#) 

Srinivasa Chary Maringanti (T-Mobile, USA); Tarun Kundu (Ericsson, USA)

S2: Session 2: Mobile and Wireless Network

Room 20

[**Unified Host- and Network-Based Mobility across IPv4/IPv6 and NAT Boundaries in CYPHONIC**](#) 

Mitsuki Sugihara, Kiwame Izumi, Soichiro Kimura and Ryouta Aihata (Aichi Institute of Technology, Japan); Hidekazu Suzuki (Meijo University, Japan); Ayano Naito (Aichi Institute of Technology, Japan)

[**Sector-Aware Pressure-Guided Adaptive Rendezvous Collection for Periodic Mobile-Sink Data Collection in Wireless Sensor Networks**](#) 

Beomkyu Suh and Ki-Il Kim (Chungnam National University, Korea (South))

[**Feasibility Study of a Millimeter-Wave ISAC for Cooperative Helicopter Networks**](#) 

Kazuyuki Morioka, Akiko Kohmura, Shunichi Futatsumori and Junichi Honda (Electronic Navigation Research Institute, Japan)

[**Time-varying Channel Estimation with Delay-scale Diversity for Underwater Acoustic Communication**](#) 

Yue Rong and Peng Chen (Curtin University, Australia)

Wednesday, November 25 10:30 - 11:00

MT1: Morning Tea

Wednesday, November 25 11:00 - 11:45

K1: Opening keynote: Digital manufacturing - Advancing industrial productivity and resilience via digital twins, physical dependency-aware AI, and co-creation with the industry

Room 19

Wednesday, November 25 11:45 - 12:30

K2: Keynote session: Adversarial Time Series Threats in Cyber-Physical Sensor Networks

Room 19

Wednesday, November 25 12:30 - 13:30

L1: Lunch

Wednesday, November 25 13:30 - 15:00

S3: Session 3: Quantum Network

Room 19

[Fidelity-Aware Quantum Network Architecture: Design and Validation of a Five-Layer Protocol Stack](#) 

Vivek Shukla and Vineet Kumar Dwivedi (National Institute of Technology, Raipur, India); Chandrashekar Jatoth (National Institute of Technology Raipur, India); Rajesh Doriya (National Institute of Technology, India); Rajkumar Buyya (University of Melbourne, Australia)

[An Enhanced Quantum Key Distribution Protocol for Key Generation and Distribution in SCADA-PLC Environments](#) 

Vineet Kumar Dwivedi (National Institute of Technology, Raipur, India); Chandrashekar Jatoth (National Institute of Technology Raipur, India); Lokesh Chouhan (NIT Hamirpur, India); Rajkumar Buyya (University of Melbourne, Australia)

[Impact of Within-Block Evaluators on Adaptive-Timing Gains in Free-Space Quantum Key Distribution](#) 

Ayush Meshram (National Institute of Technology, Raipur, India); Rajesh Doriya (National Institute of Technology, India); Chandrashekar Jatoth and Kapil Kumar Soni (National Institute of Technology Raipur, India)

S4: Session 4: Network Management, Privacy and Security

Room 20

Mitigating Data Scarcity in IoT Anomaly Detection: A Comparative Study of GANs-Based Data Augmentation

Christopher Weng Leong Wong, Min Wang, Md. Farhad Hossain and Kumudu S Munasinghe
(University of Canberra, Australia)

A Secure and Adaptive Edge-Intelligence Federated Learning Framework for Distributed Healthcare Networks: The CoA Use Case

Shahid Latif (University of the West of England, United Kingdom (Great Britain) & UWE Bristol, United Kingdom (Great Britain)); Djamel Djenouri (University of the West of England, United Kingdom (Great Britain)); Andrei Puiu and Anamaria Vizitiu (Siemens SRL, Foundational Technologies, Romania)

PentesterAI: A Hierarchical Multi-Agent System for Autonomous Web Penetration Testing

Huda Hadi and Waleed R Shoga (University of Thi-qar, Iraq); Zaidoun Salh (Dhi-Qar Education Directorate, Iraq); Aqeel Sahi, Mohammed Diykh and Shahab Abdulla (University of Southern Queensland, Australia); Sarmad Alkhafaji (University of Thi-qar, Iraq)

Performance Analysis of Scrambling Sequence Alternatives for D2R Communications in Outdoor Ambient IoT Networks

Ankit Pattnaik (Indian Institute of Technology, Kharagpur, India); Ch Santosh Reddy (Trinity College Dublin, Ireland); Debarati Sen (Indian Institute of Technology Kharagpur, India)

Wednesday, November 25 15:00 - 15:30

AT1: Afternoon Tea

Wednesday, November 25 15:30 - 17:00

S5: Session 5: Internet Technologies and Applications

Room 19

[DMB Video Quality Improvement Using Advanced Transport Stream Repair](#)

Hans-Juergen Zepernick (Blekinge Institute of Technology, Sweden); Muhammad Imran Iqbal (Axis Communications AB, Sweden); Siamak Khatibi (Blekinge Institute of Technology, Sweden); Trung Q. Duong (Memorial University of Newfoundland, Canada); Momin Jamil (Harman/Becker Automotive Systems GmbH, Germany); Rolf Esslinger (International Conference on Communication and Electronics, Vietnam)

[A Pre-Cache Method for QoE Enhancement of Adaptive Bitrate Video and Audio Transmission Over CCN](#)

Mizuki Inui and Toshiro Nunome (Nagoya Institute of Technology, Japan)

[Physics-of-Failure-Guided Run-to-Failure Predictive Maintenance Dataset Generation and Analysis for Network Interface Cards](#)

Md. Farhad Hossain, Nishant Jagannath and Md Ershadul Haque (University of Canberra, Australia); Morshed Khaled (Defence Science and Technology Group, Australia); Mahbub Hassan (University of New South Wales, Australia); Abbas Jamalipour (School of Electrical and Computer Engineering, University of Sydney, Australia & Graduate School of Information Sciences, Tohoku University, Japan); Kumudu S Munasinghe (University of Canberra, Australia)

[An Open-Source SOC Framework for Resource-Constrained Environments with Multi-Sensor Detection and Alert Triage](#)

Sree Siva Velen Ajitha Sathananthan, Sudharshiya Ganesan, Simon Yusuf Enoch and Shahbaz Pervez (Whitecliffe, New Zealand)

S6: Session 6: Mobile and Wireless Network

Room 20

[Graph Attention-Driven Proactive Topology Prediction for Multi-Layer 6G NTN: An Accuracy-Complexity Trade-off Study](#)

Md Abu Baker Siddiki Abir and Mehran Abolhasan (University of Technology Sydney, Australia); Justin Lipman (University of Technology, Sydney (UTS), Australia); Negin Shariati (University of Technology Sydney, Australia)

[Evaluating the Need for Machine Learning in LEO Satellite Handover: A Standards-Based Study](#)

Shaif Khan (United Kingdom (Great Britain)); Elango Nagasundaram and Leshan C Uggalla (University of South Wales, United Kingdom (Great Britain))

[Expected-Throughput MCS Selection for IEEE 802.11ah: Isolating the Decision Rule in Minstrel-SNN](#)



Suleman Qamar and Mehran Abolhasan (University of Technology Sydney, Australia); Justin Lipman (University of Technology, Sydney (UTS), Australia)

[Autonomous Decentralized TRP Group Selection Considering Packet Delay Constraints in Downlink Distributed MIMO System](#)

Naoki Yatabori (Tokyo University of Science, Japan); Satoshi Suyama (NTT DOCOMO, INC, Japan);
Satoshi Nagata (NTT DoCoMo, Inc., Japan); Kenichi Higuchi (Tokyo University of Science, Japan)

Thursday, November 26

Thursday, November 26 9:00 - 10:45

S7: Session 7: Wireless Network & Security

Room 19

[Belief Dynamics and Misinformation on a Social Network: A Tool for Experimentation](#)

Aaron Hunter and Keagan Purtell (BCIT, Canada)

[Impact of O-RAN Function Placement on End-to-End Delay and Energy Consumption in Non-Terrestrial Networks](#)

Khushbu Chaudhary (National Institute of Technology Durgapur, India); Nilanjan Biswas (Indian Institute of Technology Kharagpur, India); Aniruddha Chandra and Sanjay Dhar Roy (National Institute of Technology Durgapur, India)

[A Standard-Interworking Framework for Context-Aware Risk Assessment in Urban Physical Security](#)



Jiwon Yang (Korea Advanced Institute of Science & Technology, Korea (South)); Jae Young Jang, Hyoeun Seol and Dohui Kwon (Korea Advanced Institute of Science & Technology (KAIST), Korea (South)); Dongsik Choi (Daejeon Institute, Korea (South)); Hyo Chang Cheon (CUDO Communication, Korea (South)); Gisung Han (Korea Advanced Institute of Science and Technology, Korea (South)); Seung Hyun Cha (Korea Advanced Institute of Science & Technology (KAIST), Korea (South))

[Deterministic Structural and Semantic Transformation for Heterogeneous IoT Forensic Evidence](#)

Ravi Chaudhary (Curtin University of Technology, Australia); Nasim Ferdosian and Reza Ryan (Curtin University, Australia); Nickson M. Karie (Australia)

S8: Session 8: General

Room 20

[Privacy-Preserving Federated Learning for UDN-IoT: A Framework for Sliced Topologies, Security Hurdles, and Open Opportunities](#)

Atul Mahajan (Sardar Beant Singh State University, India); Keshav Sood (Deakin University, Melbourne Australia, Australia); Kallol Krishna Karmakar and Mohammad Reza Nosouhi (Deakin University, Australia); Jaswinder Singh (Sardar Beant Singh State University, India)

[Saarthi: An End-to-End Intelligent Platform for Optimising Distributed Serverless Workloads](#)

Siddharth Agarwal, Maria Rodriguez Read and Rajkumar Buyya (University of Melbourne, Australia)

[T-E2CoPre: Tactical and Energy-Efficient Cooperative Collision Avoidance for UAV Swarms by Dynamic Group Splitting and AI Surrogate Optimization](#)

Ajay Mehra and Nandini Gupta (Indian Institute of Technology, Kharagpur, India); Debarati Sen (Indian Institute of Technology Kharagpur, India); Chirag Gupta (North Eastern Space Applications Centre, India)

[STAR-RIS-Enabled UAV Wireless System Under Alpha-Mu Fading: A Random Spatial Mobility Analysis](#)

Boddu Benzonathan (National Institute of Technology Silchar, India); Purnendu Karmakar (The LNM Institute of Information Technology, India); Sucharita Chakraborty (National Institute of Technology Silchar, India); Wasim Arif (NIT Silchar, India)

[From Device Growth to Scalability Frontier: Characterising Private 5G via Digital Twin Fidelity](#)

Md Mashiur Rahman, Prem Prakash Jayaraman and Jiong Jin (Swinburne University of Technology, Australia); Suresh Palanisamy (Swinbourne University of Technology, Australia); Asif Ahmed Sardar (Curtin University, Australia); Steve van Winckel (Sutton Tools Pty Ltd, Australia)

Thursday, November 26 10:45 - 11:15

MT2: Morning Tea

Thursday, November 26 11:15 - 12:00

K3: Keynote session: AI for Wi-Fi and Wi-Fi for AI

Room 19

Thursday, November 26 12:00 - 12:45

K4: Keynote session: Securing the Intelligent 6G Era: From AI-Driven Threats to Autonomous Resilience

Room 19

Thursday, November 26 12:45 - 13:30

L2: Lunch

Thursday, November 26 13:45 - 17:45

T1: Conference Tour to Royal Botanical Garden

Thursday, November 26 18:30 - 22:00

D1: Conference Dinner

Friday, November 27

Friday, November 27 9:00 - 10:30

S10: Session 10: Mobile and Wireless Network

Room 20

[Fundamental Limits of 1-bit ISAC Systems: Capacity Region and Optimal Power Control](#)

Emmanuel Trinidad (University of the Philippines Diliman, Philippines & Pampanga State University, Philippines); Neil Irwin Bernardo (University of the Philippines Diliman, Philippines)

[Finite-Register Powered Quantum Eigenvalue Estimation for ISAC Covariance Sensing](#)

Kaushik Das (Indian Institute of Technology Kharagpur, India); Amit Dutta (Indian Institute of Technology, Kharagpur, India)

[Koopman-Predictive Coefficient Tracking for Vehicle-Mounted Monostatic ISAC](#)

Anh Tuyen Le, Xiaojing Huang and Y. Jay Guo (University of Technology Sydney, Australia)

[Optimisation of UAV-Enabled ISAC Systems for Livestock Monitoring](#)

Oluwaseun Odusole and Awanthi Jayasundara (University College Dublin, Ireland); Engin Zeydan (CTTC, Spain); Madhusanka Liyanage and Pasika Ranaweera (University College Dublin, Ireland)

S9: Session 9: Network Management, Privacy and Security

Room 19

[Certnet: Media Certification via Mutual Remote Hardware-Attestation](#)

Kaled Aljebur and Ron Addie (University of Southern Queensland, Australia)

[Service Monitoring Infrastructure in a Privacy-Centric Information Platform](#)

Kosuke Mori and Toshio Hirotsu (Hosei University, Japan)

[BlockTwinRobot: A Blockchain Integrated Digital Twin Framework For Secure Verification and Audit of Industrial Robotic Arms](#)

Gimnath Yasitha Piyapema (University of Moratuwa, Sri Lanka); Engin Zeydan (CTTC, Spain); Madhusanka Liyanage (University College Dublin, Ireland); Kasun T. Hemachandra (University of Moratuwa, Sri Lanka); Pasika Ranaweera (University College Dublin, Ireland)

[Volatility-Aware Adaptive Hysteresis for AI-Driven Hybrid Routing in Secure Edge-IoT Networks](#)

Hung Quy Tran and James Jin Kang (RMIT University Vietnam, Vietnam)

Friday, November 27 10:30 - 11:00

MT3: Morning Tea

Friday, November 27 11:00 - 11:45

K5: Keynote session: When Artificial Intelligence Meets the Internet of Things: Motivations, Challenges, and Applications

Room 19

Friday, November 27 11:45 - 12:30

K6: Keynote session: The Evolution of In-Premise Networks in the Era of Immersive Services: From Copper to Fiber-to-The

Room

Room 19

Friday, November 27 12:30 - 13:30

L3: Lunch

Friday, November 27 13:30 - 15:00

S11: Session 11: Quantum Network

Room 19

[Achievable Rate Region Optimization of Quantum Multiple-Access Channels under Decoherence Using Particle Swarm Optimization](#)

Soheil Azadinia (Ferdowsi University of Mashhad, Iran); Ghosheh Abed Hodtani (Ferdowsi University of Mashhad, Mashhad, Iran)

[A Transparent Quantum Key Distribution on Midhaul of virtualized Radio Access Network](#)

Majid K (IITDhArwad, India); Chandrashekar Jatoth (National Institute of Technology Raipur, India); Emilio Paolini and Luca Valcarengi (Scuola Superiore Sant'Anna, Italy); Koteswararao Kondepu (Indian Institute of Technology Dharwad, India)

[FPGA-implementation of enhanced BBHT algorithm for multi-user detection](#)

Muhammad Idham Habibie (TU Dresden, Germany); Moritz Reichel and Bassem Arar (Technische Universität Dresden, Germany); Ashwin Raju (Tu dresden, Germany); Riccardo Bassoli (Technische Universität Dresden, Germany); Frank H.P. Fitzek (Technische Universität Dresden & ComNets - Communication Networks Group, Germany); Veluthedathu Valappil Arfitha (Indian Institute of Technology, Kharagpur, India)

S12: Session 12: Network Management, Privacy and Security

Room 20

[Hardware-Rooted Mutual Attestation for Mobile E-Voting Systems](#)

Kaled Aljebur and Ron Addie (University of Southern Queensland, Australia)

[Cyber-Resilient Recovery Architecture for Power-Utility Communication Networks Using High-Voltage Power Line Carrier Communication](#)

Anton G. Merkulov (Kazakhstan)

[Evaluation of GPS Spoofing Attacks on Autonomous Vehicles](#)

Md. Ibnul Bin Kader Arnub, Arman Khouzani and Ian Welch (Victoria University of Wellington, New Zealand)

[Autonomous Security Management via Agentic Service Function Chaining in Next-gen Networks](#)

Visal Dam and Uday Tupakula (University of New England, Australia); Kallol Krishna Karmakar (Deakin University, Australia); Vijay Varadharajan (The University of Newcastle, Australia)

Friday, November 27 15:00 - 15:30

AT3: Afternoon Tea

Friday, November 27 15:30 - 17:00

S13: Session 13: Internet Technologies and Applications

Room 19

[Spatial Adaptive MIMO Free Space Optical Communications with Dynamic M-QAM](#)

Sabai Phuchortham and Hakilo Sabit (Auckland University of Technology, New Zealand)

[Explainable Multi-Agent Deep Reinforcement Learning for Partial Computation Offloading in Multi-Access Edge Computing](#)

Samarakoon Mudiyanse Rasin Pamoda Amarasooriya (RMIT, Australia); Mark A. Gregory and Shuo Li (RMIT University, Australia)

[AusAlert-Ready: A Reproducible Geospatial Simulation Framework for Geo-Targeted Cell-Broadcast Emergency Alerts](#)

Prabhu Jyot Singh (Churchill Institute of Higher Education, Australia)

[CEO: Crow Search-Based Efficient Computational Offloading in Mobile Edge Computing](#)

Ananya Pandey (National Institute of Technology Raipur, India); Chittaranjan Swain (Atal Bihari Vajpayee-IIITM Gwalior, India & Gwalior, India); Jitendra Kumar Rout and Deepak Singh (National Institute of Technology Raipur, India)

S14: Session 14: Mobile and Wireless Network

Room 20

[Pilot-Sparse Beam Tracking for Near-Field THz Subband Systems via Passive Subcarrier Sensing](#)

Saptarshi Mandal (Indian Institute of Technology, Kharagpur, India); Susmita Saha (IIT Kharagpur, India); Amit Dutta and Goutam Das (Indian Institute of Technology, Kharagpur, India); Himanshu Agrawal (Curtin University, Australia)

[LLM-Based Policy Imitation for Interpretable PRB Allocation in RAN Slicing](#)

Dibbendu Roy (IIT Kharagpur, India); Shubham Sinha (Indian Institute Of Technology, India)

[A Graph-Theoretic Framework for Characterizing Attack Propagation in O-RAN](#)

Avigyan Samanta and Kaushik Das (Indian Institute of Technology Kharagpur, India); Himanshu Agrawal (Curtin University, Australia); Aneek Adhya (Indian Institute of Technology Kharagpur, India)

[Closing the Mean-Tail Gap: A Counterfactual Scheduler Selection for XR in 5G NR](#)

Rahul Kushwah and Dibbendu Roy (IIT Kharagpur, India); Akhilesh Patel (IIT KANPUR Uttar Pradesh, India); Achal Waypankar (India)

Friday, November 27 17:00 - 17:15

CR: Closing Remarks

ITNAC 2027 is in Sydney, Australia

Room 19

