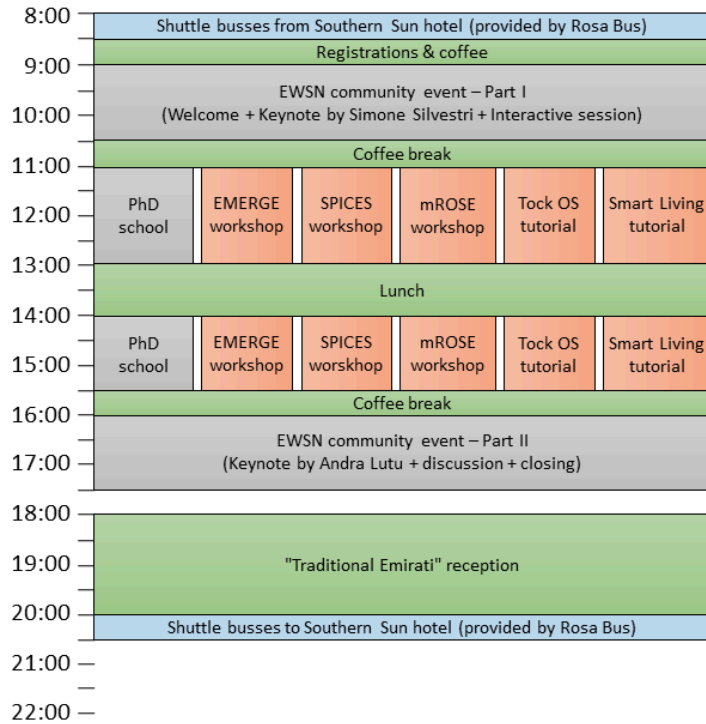
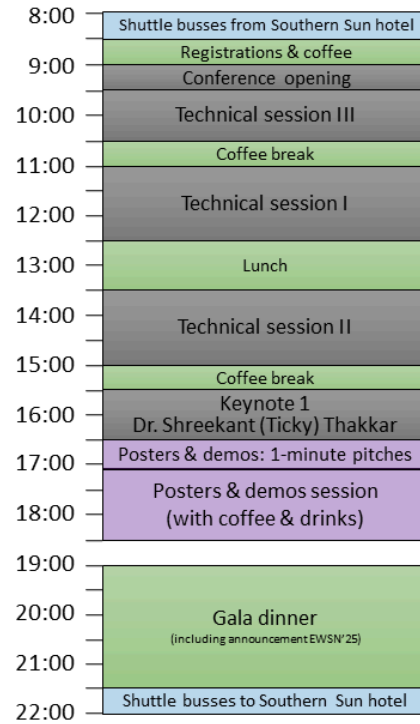


# Program overview

## Tue, December 10, 2024



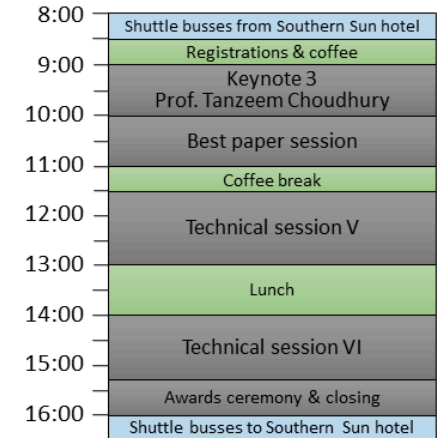
## Wed, December 11, 2024



## Thu, December 12, 2024



## Fri, December 13, 2024



# Tuesday, December 10, 2024

08:30 - 09:00	<b>Registration &amp; coffee</b>	<b>Location:</b> Foyer
09:00 - 10:30	<b>EWSN community event - Part I</b> (Chairs: Anna Förster, Anna Maria Mandalari, Kay Römer, and Marco Zuniga)	<b>Room:</b> Main Ballroom (AI Mudhaif 2)
09:00 - 09:10	Welcome	
09:10 - 10:00	<u>Keynote:</u> " <i>Climbing the Doctoral Mountain: Essential Strategies for a Successful PhD</i> " Dr. Simone Silvestri (University of Kentucky, USA)	
10:00 - 10:30	Interactive session	
10:30 - 11:00	<b>Coffee break</b>	<b>Location:</b> AI Mudhaif 3
11:00 - 12:00	<b>PhD school - Technical session I</b> (Chair: Anna Förster)	<b>Room:</b> Main Ballroom (AI Mudhaif 2)
	<i>3-minute pitches and poster presentations of all session's contributions</i>	
	<i>A Novel Framework for Sensor Fault Detection and Management in Low-Power IoT Edge Devices</i> Shadi Attarha (University of Bremen, DE)	
	<a href="#"><i><u>A Privacy-Preserving and Resilient Framework for Distributed Modular Neural Networks on the Tiny Edge</u></i></a> Gregory De Ruyter (KU Leuven, BE)	
	<a href="#"><i><u>From Eavesdropping to Exploitation: Exposing Vulnerabilities in BLE-Enabled Wearable Medical Devices</u></i></a> Mohammad Alhussan (University College London, UK)	
	<a href="#"><i><u>The Future of IoT Considering Data-Centric Architecture and AI</u></i></a> Mohamed Ahmed M. Hail (University of Lübeck, DE)	
	<a href="#"><i><u>Navigating Interdisciplinary Challenges: Taking A Low-power Wireless Plantar Pressure Monitoring System with 3D-Printed Sensors as An Example</u></i></a> Sai Peng (KU Leuven, BE)	

<b>12:00 - 13:00</b>	<b>PhD school - Technical session II</b> (Chair: Marco Zuniga)	<b>Room:</b> Main Ballroom (Al Mudhaif 2)
	<i>3-minute pitches and poster presentations of all session's contributions</i>	
	<i>Towards Sustainable, WuRs-Based Networks of Batteryless Sensor Nodes</i> Sayedsepehr Mosavat (University of Duisburg-Essen, DE)	
	<i>Application of Modeling and IoT Technologies for the Localization of Water Pollution Point Sources</i> Julia Steiwer (University of Bremen, DE)	
	<a href="#"><u>Addressing Data Challenges in Edge AI Systems</u></a> Katarina Petrovic (Graz University of Technology, AT)	
	<a href="#"><u>Efficient Optimization in Resource-Constrained Federated Learning</u></a> Ouiame Marnissi (Mohammed VI Polytechnic University, MA)	
	<a href="#"><u>KIDS, Kestrel Based Intrusion Detection System for Industrial Control Systems</u></a> Nowshaba Wani (University College Cork, IE)	

<b>11:00 - 13:00</b>	<b>SPICES workshop - Morning session</b> (Chair: Pericle Perazzo)	<b>Room:</b> Al Khaznah 1
11:00 - 11:05	Welcome and Opening	
11:05 - 11:35	<b>Keynote:</b> <i>"Safeguarding the Connected World: Prioritizing Security and Privacy in IoT"</i> Dr. Anna Maria Mandalari (University College London, UK)	
11:35 - 11:55	<b>Paper:</b> <i>"<a href="#"><u>Tabula Rasa: Starting Safe Stays Safe</u></a>"</i> Tyler Potyondy (University of California, San Diego, USA); Samir Rashid (University of California, San Diego, USA); Leon Schuermann (Princeton University, USA); Anthony Tarbinian (University of California, San Diego, USA); Pat Pannuto (University of California, San Diego, USA)	
11:55 - 12:15	<b>Paper:</b> <i>"<a href="#"><u>Highway Hijackers: Evaluating Patch Attack Susceptibility in Autonomous Driving Lane Detection Systems</u></a>"</i> Romana Blazevic (Graz University of Technology, AT); Alexander Toch (Graz University of Technology, AT); Fikret Basic (Graz University of Technology, AT)	
12:15 - 12:35	<b>Paper:</b> <i>"<a href="#"><u>Lightweight Fault Detection in UAVs: A Machine Learning Approach with Dynamic Time Windows</u></a>"</i> Saeed Alseiari (Technology Innovation Institute, UAE); Willian T. Lunardi (Technology Innovation Institute, UAE); Martin Andreoni (Technology Innovation Institute, UAE)	
12:35 - 12:55	<b>Paper:</b> <i>"<a href="#"><u>Hacking the Backbone: Shell Reverse Attacks on IIoT Systems</u></a>"</i> Wael Alsabbagh (Leibniz-Institut für innovative Mikroelektronik, DE); Chaerin Kim (Brandenburg University of Technology Cottbus-Senftenberg, DE); Nitin Sanjay Patil (Brandenburg University of Technology Cottbus-Senftenberg, DE); Peter Langendoerfer (Leibniz-Institut für innovative Mikroelektronik, DE)	

<b>11:00 - 13:00</b>	<b>EMERGE workshop - Morning session</b> (Chair: Ramona Marfievici)	<b>Room: Al Mudhaif 1</b>
11:00 - 11:10	Opening remarks	
11:10 - 12:10	<u>Keynote: “Evolving MLOps for IoT: Continuous Learning, Distributed Deployment, and Monitoring”</u> Dr. Aftab Khan (Bristol Research and Innovation Laboratory, Toshiba Europe Ltd., UK)	
12:10 - 12:25	<u>Paper: “FLAME: Adaptive and Reactive Concept Drift Mitigation for Federated Learning Deployments”</u> Ioannis Mavromatis (Digital Catapult, UK); Stefano De Feo (University of Bristol, UK); Aftab Khan (Toshiba Europe Ltd. Bristol, UK)	
12:25 - 12:40	<u>Paper: “MatchCurv: Communication-Efficient Decentralized Federated Learning in Heterogeneous Environments”</u> Harsha Praneeth Dussa (Kiel University, DE); Janek Haberer (Kiel University, DE); Olaf Landsiedel (Kiel University, DE)	
12:40 - 12:55	<u>Paper: “Customizing Pre-Processing Algorithms for Streaming Sensor Data on Embedded Networked Devices”</u> Dragos Lazea (Technical University of Cluj-Napoca, RO); Tudor Cioara (Technical University of Cluj-Napoca, RO); Anca Hangan (Technical University of Cluj-Napoca, RO); Zsolt Istvan (Technical University of Darmstadt, DE)	

<b>11:00 - 13:00</b>	<b>mROSE workshop - Morning session</b> (Chair: Ashwin Ashok)	<b>Room: Al Khaznah 2</b>
11:00 - 11:10	Welcome and Opening	
11:10 - 11:35	<u>Paper: “DeLiDAR: Decoupling LiDARs for Pervasive Spatial Computing”</u> Darshana Rathnayake (Singapore Management University, SG); Razat Sutradhar (Georgia State University, US); Abbaas Alif Mohamed Nishar (Georgia State University, US); Dulaj Sanjaya Weerakoon (Singapore-MIT Alliance for Research and Technology, SG); Ashwin Ashok (Georgia State University, US); Archan Misra (Singapore Management University, SG)	
11:35 - 12:00	<u>Paper: “Neural Network-Based Distributed Transmit Beamforming for UAV-to-Base Communications in Disaster Areas: Optimization and Adaptation Strategies”</u> Fadi Hantouli (Kennesaw State University, US); Sumit Chakravarty (Kennesaw State University, US); David Guerra-Zubiaga (Kennesaw State University, US)	
12:00 - 12:25	<u>Paper: “Joint Sensing and Communication for Enabling Advance Air Mobility”</u> Satyam Agarwal (Indian Institute of Technology Ropar, IN); Sumit Chakravarthy (Kennesaw State University, US); Ashwin Ashok (Georgia State University, US)	
12:25 - 12:50	<u>Paper: “Terahertz Band Demands Ultra-Broadband Waveform: An Analysis of Phase Noise Estimation and Compensation”</u> Michael Wilder (SUNY Polytechnic Institute, US); Ryan Primus (SUNY Polytechnic Institute, US); Hisham Kholidy (SUNY Polytechnic Institute, US); Arjun Singh (SUNY Polytechnic Institute, US); Priyangshu Sen (SUNY Polytechnic Institute, US)	

<b>11:00 - 13:00</b>	<b>Tock OS tutorial - Morning session</b> (Chairs: Tyler Potyondy, Pat Pannuto, and Anthony Tarbinian)	<b>Room: Al Jurf</b>
11:00 - 11:45	Introduction to Tock (OS design, properties, and advantages for WSN research)	
11:45 - 12:00	Workflow to Compile and Flash Tock	
12:00 - 13:00	Tock Thread Network Application (Guided Independent Work pt. I)	

<b>11:00 - 13:00</b>	<b>Tutorial on “Smart Sensing to Smart Living”- Morning session</b> (Chair: Sajal K. Das)	<b>Room: Al Muqam</b>
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13:00 - 14:00	Lunch	Location: The Terrace on the Corniche
14:00 - 15:30	<b>PhD school - Technical session III</b> (Chair: Kay Römer and Anna Maria Mandalari)	Room: Main Ballroom (Al Mudhaif 2)
3-minute pitches and poster presentations of all session's contributions		
<a href="#">Community-Driven Low-Cost Environmental Sensor Networks</a> Alex Cabral (Georgia Tech, USA)		
<a href="#">Revolutionizing Automotive Data Management. The Role of Semantic Data Warehouses in Industrial Engineering</a> Bogdan Nicusor Bindea (Technical University of Cluj-Napoca, Romania)		
<a href="#">AI and Privacy - Safeguarding IoT Data in the AI Era</a> Su Wang (Colorado School of Mines, USA)		
<a href="#">An Investigation of Matter Smart Home Mechanisms to Mitigate Denial-of-Service (DoS) Attacks</a> Andrew Losty (University College London, UK)		
<a href="#">Techniques for Increasing Trust and Reliability in IoT Systems</a> Codruta Maria Serban, (Technical University of Cluj-Napoca, Romania)		
<a href="#">Network-Enhanced On-Device AI: a Recipe for Interoperable and Cooperative AI Applications</a> Paulius Daubaris (University of Helsinki, Finland)		
<a href="#">Comprehensive Energy Consumption Analysis in Mobile Networks: Integrating Base Station and User Equipment Measurements</a> Youssef Badra (INSA Lyon, France)		
14:00 - 15:30	<b>SPICES workshop - Afternoon session</b> (Chair: Fikret Bašić)	Room: Al Khaznah 1
14:00 - 14:20	Paper: <a href="#">"HeatPulse: Thermal Attacks on Air Pollution Sensors"</a> <b>[Remote presentation]</b> Natsuki Morand (University of Lyon, FR); Ahmed Boubrima (INRIA, FR); Walid Bechkit (INSA-Lyon, FR); Zhambyl Shaikhanov (University of Maryland, USA)	
14:20 - 14:40	Paper: <a href="#">"Hack in an Elevator! Pentesting a Lift Control Web App"</a> Pericle Perazzo (University of Pisa, IT); Gianmarco Manfredonia (University of Pisa, IT)	
14:40 - 15:10	Keynote: <a href="#">"Designing Open-Source RISC-V Based Secure and Safe Flight Computers"</a> Dr. Florian Caullery (Technology Innovation Institute, UAE)	
15:10 - 15:30	Closing + Discussion	

<b>14:00 - 15:30</b>	<b>EMERGE workshop - Afternoon session</b> (Chair: Anca Hangan)	<b>Room:</b> Al Mudhaif 1
14:00 - 14:15	<u>Paper:</u> " <a href="#">Efficient and Effective Multi-Objective AutoML for Industrial Data Analytics</a> " Tanmay Goyal (ABB Research & Development Center, DE); Pengcheng Huang (ABB Research Center, CH); Balz Maag (ABB Research Center, CH)	
14:15 - 14:30	<u>Paper:</u> " <a href="#">Breaking the Illusion: Real-world Challenges for Adversarial Patches in Object Detection</a> " Jakob Schack (Graz University of Technology, AT); Katarina Petrovic (Graz University of Technology, AT); Olga Saukh (Graz University of Technology, AT)	
14:30 - 14:45	<u>Paper:</u> " <a href="#">EVs Coordination to Maximize the Usage of Local Renewable Energy</a> " Cristina Pop (Technical University of Cluj-Napoca, RO); Viorica Chifu (Technical University of Cluj-Napoca, RO); Anamaria Raita (Technical University of Cluj-Napoca, RO); Tudor Cioara (Technical University of Cluj-Napoca, RO); Ionut Anghel (Technical University of Cluj-Napoca, RO); Marius Joldos (Technical University of Cluj-Napoca, RO)	
14:45 - 15:15	Open discussion	
15:15 - 15:20	Closing remarks	

<b>14:00 - 15:30</b>	<b>mROSE workshop - Afternoon session</b> (Chair: Ashwin Ashok)	<b>Room:</b> Al Khaznah 2
14:00 - 14:50	<u>Keynote:</u> " <a href="#">LiFi Backhaul Networks</a> " Deepak Solanki (Velmenni, Inc.)	
14:50 - 15:20	Networking event/group meeting	
15:20 - 15:30	Closing remarks	

<b>14:00 - 15:30</b>	<b>Tock OS Tutorial - Afternoon session</b> (Chairs: Tyler Potyondy, Pat Pannuto, and Anthony Tarbinian)	<b>Room:</b> Al Jurf
14:00 - 15:00	Tock Multi-tenancy and Robustness (Guided Independent Work pt. II)	
15:00 - 15:30	Concluding Remarks and Next Steps with Tock	

<b>14:00 - 15:30</b>	<b>Tutorial on "Smart Sensing to Smart Living"- Afternoon session</b> (Chair: Sajal K. Das)	<b>Room:</b> Al Muqam
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<b>15:30 - 16:00</b>	<b>Coffee break</b>	<b>Location:</b> Al Mudhaif 3
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16:00 - 17:30	<b>EWSN community event - Part II</b> (Chairs: Anna Förster, Anna Maria Mandalari, Kay Römer, and Marco Zuniga)	<b>Room:</b> Main Ballroom (Al Mudhaif 2)
16:00 - 17:00	<u>Keynote:</u> <i>“From PhD to Industry: on navigating the dynamics of scientific research within the (global) cellular ecosystem”</i> Dr. Andra Lutu (Telefonica Research, Madrid, ES)	
17:00 - 17:20	Discussion	
17:20 - 17:30	Closing remarks	
18:00 - 20:00	<b>“Traditional Emirati” reception</b>	<b>Location:</b> Nation Riviera Beach

# Wednesday, December 11, 2024

08:30 - 09:00	<b>Registration &amp; coffee</b>	<b>Location:</b> Foyer
09:00 - 09:45	<b>Conference opening</b> (Chairs: Carlo Alberto Boano, Michael Baddeley, Prabal Dutta)	<b>Room:</b> Main Ballroom (AI Mudhaif 2)
09:45 - 10:30	<b>Technical session III: Resource-constrained systems</b> (Chair: Pat Pannuto)	<b>Room:</b> Main Ballroom (AI Mudhaif 2)
09:45 - 10:07	<a href="#"><u>Memory-efficient Energy-adaptive Inference of Pre-Trained Models on Batteryless Embedded Systems</u></a> Pietro Farina (University of Trento, IT); Subrata Biswas (Worcester Polytechnic Institute, US); Eren Yildiz (Ege University, TR); Khakim Akhunov (University of Trento, IT); Saad Ahmed (Georgia Institute of Technology, US); Bashima Islam (Worcester Polytechnic Institute, US); Kasim Sinan Yildirim (University of Trento, IT)	
10:08 - 10:30	<a href="#"><u>GreenPipe: Energy-Efficient Data-Processing Pipelines in Resource-Constrained Systems</u></a> Benedict Herzog (Ruhr-Universität Bochum, DE); Jakob Schubert (Fraunhofer Institute for Integrated Circuits, DE); Tim Rheinfels (Friedrich-Alexander-Universität Erlangen-Nürnberg, DE); Christian Nickel (Fraunhofer Institute for Integrated Circuits, DE); Timo Hönig (Ruhr-Universität Bochum, DE)	
10:30 - 11:00	<b>Coffee break</b>	<b>Location:</b> AI Mudhaif 3
11:00 - 12:30	<b>Technical Session I: Embedded AI</b> (Chair: Brad Campbell)	<b>Room:</b> Main Ballroom (AI Mudhaif 2)
11:00 - 11:22	<a href="#"><u>FedReG: Recouping the Global Model in Personalized Federated Learning</u></a> Tianyi Liu, Mingkun Yang, Qing Wang (Delft University of Technology, NL)	
11:22 - 11:44	<a href="#"><u>Antler: Exploiting Task Affinity for Efficient Multitask Learning on Low-Resource Systems</u></a> Yubo Luo (University of North Carolina at Chapel Hill, US); Le Zhang (University of California San Diego, US); Zhenyu Wang, Shahriar Nirjon (University of North Carolina at Chapel Hill, US)	
11:44 - 12:06	<a href="#"><u>AdaTM: Logic Inspired Adaptive Tsetlin Machines for Efficient and Effective Continual Learning on the Edge</u></a> Chong Tang, Neelam Singh, Jagmohan Chauhan (University of Southampton, UK)	
12:06 - 12:28	<a href="#"><u>Explaining the Difference Between Edge Models and High-Accuracy Base Models for Vision Tasks</u></a> Zhenyu Wang, Shahriar Nirjon (University of North Carolina at Chapel Hill, US)	
12:30 - 13:30	<b>Lunch</b>	<b>Location:</b> The Terrace on the Corniche



<b>13:30 - 15:00</b>	<b>Technical Session II: Networking</b> (Chair: Olaf Landsiedel)	<b>Room:</b> Main Ballroom (AI Mudhaif 2)
13:30 - 13:52	<a href="#"><u>CaIN: Low Power and Low Latency VHF Mesh Networking</u></a> Mengyao Liu, Bingwu Fang, Jonathan Oostvogels, Sam Michiels (DistriNet, KU Leuven, BE); Andrei Belogaev, Xinlei Liu, Jeroen Famaey (University of Antwerp - imec, BE); Danny Hughes (DistriNet, KU Leuven, BE)	
13:52 - 14:14	<a href="#"><u>Configuring Industrial Wireless Mesh Networks via Multi-Source Domain Adaptation</u></a> Xia Cheng, Mo Sha (Florida International University, US); Dong Chen (Colorado School of Mines, US)	
14:14 - 14:36	<a href="#"><u>Sunlight-Duo: Exploiting Sunlight for Simultaneous Energy Harvesting &amp; Communication</u></a> Talia Xu, Mirco Muttillio, Miguel Chavez Tapia, Patrizio Manganiello (Delft University of Technology, NL); Harald Haas (The University of Strathclyde, UK); Marco Zuniga Zamalloa (Delft University of Technology, NL)	
14:36 - 14:58	<a href="#"><u>Greentooth: Robust and Energy Efficient Wireless Networking for Batteryless Devices</u></a> (Journal Track) Simeon Babatunde, Arwa Alsubhi (Clemson University, US); Josiah Hester (Georgia Institute of Technology, US); Jacob Sorber (Clemson University, US)	

<b>15:00 - 15:30</b>	<b>Coffee break</b>	<b>Location:</b> AI Mudhaif 3
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<b>15:30 - 16:30</b>	<b>Keynote 1</b> (Chair: Michael Baddeley)	<b>Room:</b> Main Ballroom (AI Mudhaif 2)
	<b>Keynote:</b> "RoboMotes as Wireless Dust: How Zero Trust Security and Generative AI Will Empower Autonomous Systems" Dr. Shreekant (Ticky) Thakkar (Technology Innovation Institute, UAE)	

<b>16:30 - 18:30</b>	<b>Posters &amp; Demos</b> (Chair: Bernd-Christian Renner)	
16:30 - 17:00	1-minute pitches of all posters & demos	<b>Room:</b> Main Ballroom (AI Mudhaif 2)
17:00 - 18:30	Posters & demos session with coffee & drinks	<b>Room:</b> AI Mudhaif 3

[Poster: Camera Tampering Detection for Outdoor IoT Systems](#)

Shadi Attarha (University of Bremen, DE); Kanaga Shanmugi (University of Bremen, DE); Anna Förster (University of Bremen, DE)

[Poster: Acoustic Backscatter Communication In Realistic Metal Structures](#)

Peter Oppermann (Hamburg University of Technology, DE); Christian Renner (Hamburg University of Technology, DE)

[Poster: Bridging IoT Gaps in Developing Regions with LLMs](#)

Muhammad Saad Ali (LUMS, PK); Daanish Uddin Khan (LUMS, PK); Laiba Intazar Ahmed (LUMS, PK); Areeba Shahzad (LUMS, PK); Maham Zahid (LUMS, PK); Mohammad Shaharyar Ahsan (LUMS, PK); Naveed Anwar Bhatti (LUMS, PK); Muhammad Hamad Alizai (LUMS, PK)

[Poster: Automating Approximations in Batteryless IoT Devices](#)

Muhammad Abdullah Soomro (LUMS, PK); Naveed Anwar Bhatti (LUMS, PK); Muhammad Hamad Alizai (LUMS, PK)

[Poster: An Empirical Study in mmWave-Based 3D Human Pose Estimation](#)

Zhenyu Wang (University of North Carolina at Chapel Hill, US); Shahriar Nirjon (University of North Carolina at Chapel Hill, US)

[Poster: Design Considerations for Persistent Storage on Multi-Tenant Embedded Systems](#)

Anthony Tarbinian (University of California San Diego, US); Tyler Potyondy (University of California San Diego, US); Pat Pannuto (University of California San Diego, US)

[Poster: Your Gesture Can Prevent Oops Moments in Online Meeting](#)

Rahul Mishra (IIT Patna, IN); Ashutosh Kr Sinha (IIT Patna, IN); Hari Prabhat Gupta (IIT Varanasi, IN)

[Poster: An Investigation of Matter Smart Home Mechanisms to Mitigate Denial-of-Service \(DoS\) Attacks](#)

Andrew Losty (University College London, UK); Anna Maria Mandalari (University College London, UK)

[Poster: Low-Cost Sensor Correlation based on Urban Form](#)

Alex Cabral (Harvard University, USA); Jim Waldo (Harvard University, US); Amy V. Mueller (Northeastern University, US)

[Poster: LoRa Mobility and Coverage Dataset \(LoRaMC\)](#)

Lorenzo Frangella (University of Roma "La Sapienza", IT); Stefano Milani (University of Roma "La Sapienza", IT); Domenico Garlisi (University of Palermo, IT); Ioannis Chatzigiannakis (University of Roma "La Sapienza", IT)

[Poster: BATMAN-ADV Routing Challenges and Optimizations](#)

Kumar Murugesan (Technology Innovation Institute, UAE); Kavin Kumar Thangadorai (Technology Innovation Institute, UAE)

[Poster: A Multi-Radio Aware Mesh Platform for Resilient Human-to-Human Communication](#)

Kavin Kumar Thangadorai (Technology Innovation Institute, UAE); Krishna M. Sivalingam (Indian Institute of Technology Madras, IT); Kumar Murugesan (Technology Innovation Institute, UAE)

[Poster: Could Large Language Models Perform Network Management?](#)

Zine el abidine Kherroubi (Technology Innovation Institute, UAE); Monika Prakash (Technology Innovation Institute, UAE); Jean-Pierre Giacalone (Technology Innovation Institute, UAE); Michael Baddeley (Technology Innovation Institute, UAE)

[Poster: Real-Time Performance Evaluation of Ground-to-Ground LoRa Modules in Urban Environments](#)

Uma Mahesh R (Technology Innovation Institute, UAE); Kumar Murugesan (Technology Innovation Institute, UAE); Kavin Kumar Thangadorai (Technology Innovation Institute, UAE)

[Demo: From Eavesdropping to Exploitation: Exposing Vulnerabilities in BLE-Enabled Wearable Medical Devices](#)

Mohammad Alhussan (University College London, UK); Francesca Boem (University College London, UK); Sara Ghoreishizadeh (University College London, UK); Anna Maria Mandalari (University College London, UK)

[Demo: From Pasture to Cloud: AI-Driven Predator Deterrence with Local Action and Cloud-Linked Alerts](#)

Jens Dede (University of Bremen, DE); Anna Förster (University of Bremen, DE)

[Demo: Where does that even come from?! Localizing Water Pollution through IoT and Modeling](#)

Julia Steiwer (University of Bremen, DE); Anna Förster (University of Bremen, DE)

[Demo: Enhancing LoRaWAN Networks with Edge Computing: A Demonstration on a Large-Scale Scenario](#)

Lorenzo Frangella (University of Roma "La Sapienza", IT); Stefano Milani (University of Roma "La Sapienza", IT); Domenico Garlisi (University of Palermo, IT); Ioannis Chatzigiannakis (University of Roma "La Sapienza", IT);

[Demo: A Flexible Extension Board for IoT Devices to Enable their Batteryless Operation](#)

Florian Walter Mühlbacher (Graz University of Technology, AT); Markus Schuß (Graz University of Technology, AT); Hannah Brunner (Graz University of Technology, AT); Carlo Alberto Boano (Graz University of Technology, AT)

[Demo: An Affordable and Easy-to-Setup Ground Truth System to Facilitate Localization Research](#)

Lukas Furtner (Graz University of Technology, AT); Markus Schuss (Graz University of Technology, AT); Maximilian Schuh (Graz University of Technology, AT); Carlo Alberto Boano (Graz University of Technology, AT)

[Demo: Managing Far-Edge Devices using Kubernetes](#)

Carlos Resende (Fraunhofer AICOS, PT); João Oliveira (Fraunhofer AICOS, PT); Filipe Sousa (Fraunhofer AICOS, PT); Waldir Junior (Fraunhofer AICOS, PT); Luís Almeida (CISTER / FEUP - University of Porto, PT)

[Demo: Streaming Video over 360 Degrees Visible Light Communication](#)

Javier Talavante (IMDEA Networks Institute, ES); Salvatore Corallo (IMDEA Networks Institute, ES); Domenico Giustiniano (IMDEA Networks Institute, ES)

**19:00 - 21:30**

**Gala dinner**

(including EWSN'25 announcement)

**Room:** Main Ballroom (AI Mudhaif 2)

# Thursday, December 12, 2024

08:30 - 09:00	<b>Registration &amp; coffee</b>	<b>Location:</b> Foyer
09:00 - 10:00	<b>Keynote 2</b> (Chair: Prabal Dutta)	<b>Room:</b> Main Ballroom (AI Mudhaif 2)
	<u>Keynote:</u> “ <i>TelecomGPT: Next Generation AI Telecom Network</i> ” Prof. Merouane Debbah (Khalifa University, Abu Dhabi, UAE)	
10:00 - 11:00	<b>Technical session IV: Security &amp; privacy</b> (Chair: Rui Tan)	<b>Room:</b> Main Ballroom (AI Mudhaif 2)
10:00 - 10:15	<u>WiP Paper: BUSTed Second Stop! A First Step for Breaking Cryptographic Applications on MCU-based IoT Devices</u> (short presentation) André Barbosa, Cristiano Rodrigues, Tiago Gomes, Sandro Pinto (Universidade do Minho, PT)	
10:15 - 10:30	<u>Concise Paper: Towards On-board Radiometric Fingerprinting Fully Integrated on an Embedded System</u> (short presentation) Wenqing Yan (Uppsala University, SE); Mikolai-Alexander Gütschow (Technische Universität Dresden, DE); Thiemo Voigt (RISE Computer Science, Uppsala University, SE); Christian Rohner (Uppsala University, SE)	
10:30 - 10:52	<u>Designing Privacy-Aware IoT Applications for Unregulated Domains</u> (Journal Track) Nada Alhirabi (King Saud University Riyadh, SA, and Cardiff University, UK); Stephanie Beaumont (My Data Fix Ltd., London, UK); Omer Rana (Cardiff University, UK); Charith Perera (Cardiff University, UK)	
11:00 - 11:30	<b>Coffee break</b>	<b>Location:</b> AI Mudhaif 3
11:30 - 12:30	<b>Sustainability competition</b> (Chair: Markus Schuss)	<b>Room:</b> Main Ballroom (AI Mudhaif 2)
	Competition summary and announcement of winners + Presentation of winning teams  1st place: <u>ShiSHA-1: Lightning-Fast SHA-1 Implementation for Energy-Constrained Devices</u> Antonio Escobar-Molero (Infineon Technologies, DE, and RedNodeLabs UG, DE), Alberto Martín Martín (Universidad de Granada, ES, and eesy-innovation, DE), Juan Cruz-Cozar (Infineon Technologies, DE), Jirka Klaue (Airbus, DE)  2nd place: <u>Work Smarter, not Harder: Towards a Sustainable IoT</u> Johannes Göpfert (Hamburg University of Technology, DE), Sayedsepehr Mosavat (University of Duisburg-Essen, DE, and Niederrhein University of Applied Sciences, DE), David Glomsda (Niederrhein University of Applied Sciences, DE), Kamil Kaznowski (Hamburg University of Technology, DE), Pedro José Marrón (University of Duisburg-Essen, DE), Bernd-Christian Renner (Hamburg University of Technology, DE), Matteo Zella (Niederrhein University of Applied Sciences, DE)  3rd place: <u>Hashcash on the MSP430 - Intermittent Computing and Code Optimization</u> Andreas Könsgen, Jens Dede, Saurabh Band, Shadi Attarha, Anna Förster (University of Bremen, DE)  4th place (ex-aequo): <u>Fast Intermittent Computing via Mixed Memory Model</u> Saad Ahmed, Josiah Hester (Georgia Institute of Technology, US)  4th place (ex-aequo): <u>Leveraging Hibernus to Manage Intermittent Power Supply During Hashcash Computation</u> Firdaus Ritom, Sergey Mileiko, Domenico Balsamo (Newcastle University, UK)	

<b>12:30 - 13:30</b>	<b>(Light) Lunch</b>	<b>Location:</b> Al Mudhaif 3
<b>13:30 - 15:30</b>	<b>Bus transfer to the desert</b>	
<b>15:30 - 18:30</b>	<b>Community building activity (desert safari)</b>	
<b>18:30 - 20:30</b>	<b>Dinner &amp; dessert in the desert</b>	
<b>20:30 - 22:30</b>	<b>Bus transfer back to venue / hotels</b>	

# Friday, December 13, 2024

08:30 - 09:00	<b>Registration &amp; coffee</b>	<b>Location:</b> Foyer
09:00 - 10:00	<b>Keynote 3</b> (Chair: Prabal Dutta)	<b>Room:</b> Main Ballroom (Al Mudhaif 2)
	<u>Keynote:</u> "Sensory Interventions: Real-time integration of passive sensing and adaptive passive interventions" Prof. Tanzeem Choudhury (Cornell Tech, New York, US)	
10:00 - 11:00	<b>Best paper session</b> (Chair: Christine Julien)	<b>Room:</b> Main Ballroom (Al Mudhaif 2)
10:00 - 10:30	<u><a href="#">I Still See You: Why Existing IoT Traffic Reshaping Fails</a></u> Su Wang, Keyang Yu, Qi Li, Dong Chen (Colorado School of Mines, US)	
10:30 - 11:00	<u><a href="#">Feasibility of Radio Frequency Based Wireless Sensing of Lead Contamination in Soil</a></u> Yixuan Gao, Tanvir Ahmed (Cornell Tech, US); Zhongqi Cheng, Mikhail Mohammed (Brooklyn College, US); Rajalakshmi Nandakumar (Cornell Tech, US)	
11:00 - 11:30	<b>Coffee break</b>	<b>Location:</b> Al Mudhaif 3
11:30 - 13:00	<b>Technical session V: Applications and visions</b> (Chair: Anna Förster)	<b>Room:</b> Main Ballroom (Al Mudhaif 2)
11:30 - 11:52	<u><a href="#">A Novel Platform to Teach Wireless Communication to Children and Teenagers</a></u> Miguel A. Chavez Tapia (Delft University of Technology, NL); Daniel T. Menacho Ordoñez (Pontificia Universidad Católica del Perú, PE); Kiara M. Rodriguez Bautista (Universidad Nacional de Ingeniería, PE); Talia Xu (Delft University of Technology, NL); Davorka Medvedović (Elementary School Rovišće, HR); Marco Zuñiga Zamalloa (Delft University of Technology, NL)	
11:52 - 12:14	<u><a href="#">FADED: FAult DEtection and Diagnostic System for HVAC Sensors in Commercial Buildings</a></u> Altynay Smagulova, Alberto Cerpa (University of California, Merced, US)	
12:14 - 12:29	<u><a href="#">WiP paper: UWB-based Integrated Sensing and Communication (ISAC) for Robotic Applications</a></u> (short presentation) Ben Van Herbruggen, Stijn Luchie, Jelle Jocqué, Ruben Wilssens, Sam Lemey, Eli De Poorter (Ghent university - imec, BE)	
12:29 - 12:44	<u><a href="#">Vision paper: LoRa on Ice - Live sea ice monitoring using IoT technologies</a></u> (short presentation) Jan Rohde, Daniel Helms, Mara Neudert, Maximilian Betz, Stefanie Arndt (Alfred Wegener Institute, Bremerhaven, DE); Christian Haas, Anna Förster (University of Bremen, DE)	
12:44 - 12:59	<u><a href="#">Vision Paper: Computing behind Transparent Screen</a></u> (short presentation) Hanting Ye, Qing Wang (Delft University of Technology, NL)	
13:00 - 14:00	<b>Lunch</b>	<b>Location:</b> The Terrace on the Corniche

<b>14:00 - 15:10</b>	<b>Technical session VI: Communications</b> (Chair: Kay Römer)	<b>Room:</b> Main Ballroom (Al Mudhaif 2)
14:00 - 14:22	<a href="#"><i>VoiceDirect: mmWave and Audio Signal Fusion for User Localization and Speaking Direction Estimation</i></a> Mahathir Monjur, Shahriar Nirjon (University of North Carolina at Chapel Hill, US)	
14:22 - 14:44	<a href="#"><i>Towards Distributed Flow Scheduling in IEEE 802.1Qbv Time-Sensitive Networks</i></a> (Journal Track) Miao Guo, Shibo He, Chaojie Gu, Xiuzhen Guo, Jiming Chen (Zhejiang University, CN); Tao Gao, Tongtong Wang (Huawei Technologies Co Ltd)	
14:44 - 15:06	<a href="#"><i>RFinder: Pinpoint the Invisible RFID Tags in the Prefabricated Buildings</i></a> Jiacheng Zhang (Tsinghua University, CN); Meng Jin (Shanghai Jiao Tong University, CN); Yimiao Sun, Weiguo Wang, Jia Zhang, Xin Na (Tsinghua University, CN); Xiuzhen Guo (Zhejiang University, CN); Yuan He (Tsinghua University, CN)	
<b>15:10 - 15:45</b>	<b>Awards ceremony and closing</b> (Chair: Carlo Alberto Boano, Michael Baddeley, and Prabal Dutta)	<b>Room:</b> Main Ballroom (Al Mudhaif 2)