



**IEEE**  
**Future Networks™**  
**WORLD FORUM • 2022**

Papers accepted to the 2022 IEEE Future Networks World Forum, including papers for workshop and symposia:

<b>Title</b>	<b>Authors with affiliation and country</b>	<b>Track name</b>	<b>Mode</b>
The cost and coverage challenge of connecting rural and remote areas	Ivan Rincon (Government of British Columbia, Canada)	S3: Symposium on Connecting the Un/Under-Connected in 5G and Future Networks	Remote
LEACH-RCLB: Load Balanced Clustering for WSN in the context of IoT	Dua Alsoudi, Wesam Al Mobaideen and Mohammad Qatawneh (The University of Jordan, Jordan)	S4: Symposium on IoT & Sensor Networks	
Semantic Information Market For The Metaverse: An Auction Based Approach	Ismail Lotfi and Dusit Niyato (Nanyang Technological University, Singapore); Sumei Sun (Institute for Infocomm Research, Singapore); Dong In Kim (Sungkyunkwan University (SKKU), Korea (South)); Melike Erol-Kantarci (University of Ottawa & Ericsson, Canada); Chunyan Miao (Nanyang Technological University, Singapore)	S4: Symposium on IoT & Sensor Networks	On-site
Deep Reinforcement Learning for Task Offloading in UAV-Aided Smart Farm Networks	Anne Catherine Nguyen and Turgay Pamuklu (University of Ottawa, Canada); Aisha Syed (Nokia Bell Labs, Canada); Sean Kennedy (Nokia Bell Labs, USA); Melike Erol-Kantarci (University of Ottawa & Ericsson, Canada)	S9: Symposium on AI/ML-Driven Communications	
Reviewing the role of machine learning and artificial intelligence for remote attestation in 5G+ networks	Shannon K Gallagher and Anton Hristozov (Software Engineering Institute, USA); Amit Vasudevan (CMU, USA); Austin Whisnant (Software Engineering Institute, USA)	Main Track 1: 5G & Future Networks' Technologies	

Pre-hospital Triage Improvement for Ambulances via 5G Video and Vital Data Communication	Haibin Zhang and Yohan Toh (TNO, The Netherlands); Iñaki Martin Soroa (ISISPACE, The Netherlands); Donal Morris (RedZinc, Ireland); Marie-Pauline Roukens (Vie Curi Medical Centre & Ambulancezorg Groningen, The Netherlands)	WS1: 5G Trials Across Multiple Vertical Industries - from Experiments to Business Validation	On-site
Automated Data Analytics and Resource Arbitration Scheduling for Containerized Network Functions	Takaya Miyazawa (National Institute of Information and Communications Technology (NICT), Japan); Masahiro Jibiki and Ved P. Kafle (National Institute of Information and Communications Technology, Japan)	Main Track 1: 5G & Future Networks' Technologies	Remote
Autonomous Navigation and Configuration of Integrated Access Backhauling for UAV Base Station Using Reinforcement Learning	Hongyi Zhang (Chalmers University of Technology, Sweden); Jingya Li (Ericsson, Sweden); Zhiqiang Qi (Ericsson, China); Xingqin Lin (Ericsson Research, USA); Anders Aronsson (Ericsson, Sweden); Jan Bosch (Chalmers University of Technology, Sweden); Helena Holmström Olsson (Malmö University, Sweden)	Main Track 1: 5G & Future Networks' Technologies	Remote
Federated machine learning through edge ready architectures with privacy preservation as a service	Konstantinos A Koutsopoulos (Qualtek Sprl., Greece); Anastasius Gavras (Eurescom GmbH, Germany); Stefan Covaci and Benjamin Ertl (Agentscape AG, Germany); Spyridon Tompros (Qualtek SPRL, Belgium); Antoine Simon (University of Rennes 1, France); Gouenou Coatrieux (IMT Atlantique, France); Katarzyna Kapusta (Thales SIX, France)	S6: Symposium on Security for 5G and Future Networks	
Performance of a Neural Network Receiver under Mismatch of Channel Training Samples	Pedro Henrique Carneiro Souza and Luciano Leonel Mendes (Inatel, Brazil); Richard Demo Souza (Federal University of Santa Catarina, Brazil)	Main Track 1: 5G & Future Networks' Technologies	On-site
5G in the Wild: Performance of C-Band 5G-NR in Rural Low-Power Fixed Wireless Access	Eleanor Davies (University of Lancaster, United Kingdom (Great Britain)); Antony Chung (Lancaster University, United Kingdom (Great Britain)); Matthew Broadbent (Edinburgh Napier University, United Kingdom (Great Britain)); Alasdair Macleod (Quickline Communications Ltd, United Kingdom (Great Britain));	Main Track 3: 5G and Future Networks' Trials, Experimental Results and Deployment Scenarios	On-site

	Nicholas Race (Lancaster University, United Kingdom (Great Britain))		
Deployment of 5G Network Applications over Multidomain and Dynamic Platforms	Ana Hermosilla (Odin Solutions SL, Spain); Jorge Gallego-Madrid (University of Murcia & Odin Solutions, Spain); Pedro Martinez-Julia and Ved P. Kafle (National Institute of Information and Communications Technology, Japan); Kostis Trantzas and Christos Tranoris (University of Patras, Greece); Rafael Direito and Diogo Gomes (Universidade de Aveiro & Instituto de Telecomunicações, Portugal); Jordi Ortiz (University Defense Center, (CUD), Spanish Air Force Academy, MDE-UPCT, Spain & University of Murcia, Spain); Spyros Denazis (University of Patras, Greece); Antonio F. Skarmeta (Odin Solutions S. L, Spain)	S6: Symposium on Security for 5G and Future Networks	On-site
Simulation of NR-V2X in a 5G Environment using OMNeT++	Suryanarayanaraju Pusapati (University of Regina, Canada); Bassant Selim (Ericsson AB, Canada); Yimin Nie (Ericsson INC., Canada); Huang Lin and Wei Peng (University of Regina, Canada)	Main Track 3: 5G and Future Networks' Trials, Experimental Results and Deployment Scenarios	On-site
Towards 3D Flexible 6G Networks: Status, Challenges and Technical Enablers	Sokratis Barmponakis and Andreas Georgakopoulos (WINGS ICT Solutions, Greece); Panagiotis Vlacheas (WINGS ICT SOLUTIONS, Greece); Panagiotis Demestichas (University of Piraeus, Greece)	Main Track 1: 5G & Future Networks' Technologies	Remote
A Study on the Use of Runtime Files in Handling Crash Reports in a Large Telecom Company	Panchal Komal, Fatima Ait-Mahammed and Abdelwahab Hamou-Lhadj (Concordia University, Canada); Zhongwen Zhu (Ericsson Canada, Canada); Salman Memon (Ericsson, Canada); Alka Isac (Ericsson AB, Canada); Pragash Krishnamoorthy (Ericsson, Canada)	Main Track 2: 5G Applications and Services	On-site

3D Self-Motion Tracking Services: Coalescence of mmWave Beam Orientations and Phase Information	Simon Häger, Stefan Böcker and Christian Wietfeld (TU Dortmund University, Germany)	Main Track 2: 5G Applications and Services	
5G Festival - Re-inventing live collaborative performances	Konstantinos Katsaros and Dritan Kaleshi (Digital Catapult, United Kingdom (Great Britain)); Anthony Karydis and Luke Kazanis (Mativision, United Kingdom (Great Britain)); Kane Rawnsley-Odd and Neil Hooper (Audiotonix, United Kingdom (Great Britain)); Pete Fletcher (Sonosphere, United Kingdom (Great Britain))	Main Track 2: 5G Applications and Services	
BGP-ELF: Enhancing BGP To Eliminate Routing Loops and Oscillations without Using Path Vectors	Jj Garcia-Luna-Aceves (University of California at Santa Cruz, USA)	S7: Symposium on Next-Generation Networking & Internet	Remote
Business Models for 5G and Future Mobile Network Operators	Laurence Banda (University of the Witwatersrand & French South African Institute of Technology, South Africa); Mjumo Mzyece (University of the Witwatersrand, South Africa); Fisseha Mekuria (Malmo University, Sweden & Technology & Society, Sweden)	Main Track 5: 5G & Future Networks' Special Topicals	Remote
Building 5G Fingerprint Datasets for Accurate Indoor Positioning	Huang Lin (University of Regina, Canada); Hakimeh Purmehdi (Ericsson, Canada); Yuxin Zhao (Ericsson AB, Sweden); Wei Peng (University of Regina, Canada)	Main Track 3: 5G and Future Networks' Trials, Experimental Results and Deployment Scenarios	
Link Failure Recovery in SDN-Enabled Reconfigurable 6G Crosshaul Architecture	Yijie Tao (The University of Melbourne, Australia); Sampath Edirisinghe (University of Sri Jayewardenepura, Sri Lanka); Chathurika Ranaweera (Deakin University, Australia); Christina Lim (University of Melbourne, Australia); Ampalavanapillai Nirmalathas (The University of Melbourne, Australia); Lena Wosinska (Chalmers University of Technology, Sweden)	S8: Symposium on Optical Communications	Remote
Efficient Network Capacity Expansion by Differentiated WDM-	Kazuki Hayashi, Yojiro Mori and Hiroshi Hasegawa (Nagoya University, Japan)	S8: Symposium on Optical Communications	

Density with Bandwidth-Variable Virtual Direct Links			
No Limits - Smart Cellular Edges for Cross-Border Continuity of Automotive Services	Girma Mamuye Yilma (NEC Laboratories Europe GmbH, Germany); Nina Slamnik-Krijestorac (University of Antwerp, IDLab-imec, Belgium); Marco Liebsch (NEC Laboratories Europe GmbH, Germany); Antonio Francescon (Fondazione Bruno Kessler, Italy); Johann M. Marquez-Barja (University of Antwerpen & imec, Belgium)	Main Track 2: 5G Applications and Services	
Drivers for Organic 6G Networking	Marius Corici, Fabian Eichhorn and Varun Gowtham (Fraunhofer FOKUS, Germany); Thomas Magedanz (Fraunhofer Institute FOKUS / TU Berlin, Germany)	Main Track 1: 5G & Future Networks' Technologies	
Vertical-oriented 5G platform-as-a-service: user-generated content case study	Sarang Kahvazadeh (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain); Hamzeh Khalili (Centre Tecnològic de Telecomunicacions de Catalunya, Spain); Rasoul Nikbakht (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain); Bahador Bakhshi (Centre Tecnològic Telecomunicacions Catalunya (CTTC) & Amirkabir University of Technology, Spain); Josep Mangues-Bafalluy (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain)	Main Track 2: 5G Applications and Services	
On the Exact Performance of IRS-Assisted Communications Under Random and Coherent Phase Shifts Over $\kappa$ - $\mu$ Fading Channels	Gustavo Rodrigues de Lima Tejerina and Luciano Leonel Mendes (Inatel, Brazil); Rausley Adriano Amaral de Souza (National Institute of Telecommunications (INATEL), Brazil)	Main Track 1: 5G & Future Networks' Technologies	On-site
RIPPLE: Loop-Free Multi-Path Routing with Minimum Blocking during Convergence	Jj Garcia-Luna-Aceves (University of California at Santa Cruz, USA)	S7: Symposium on Next-Generation Networking & Internet	Remote

Optical X-haul for 5G /6G: Design and Deployment Standpoint	Christina Lim (University of Melbourne, Australia); Chathurika Ranaweera (Deakin University, Australia); Ampalavanapillai Nirmalathas and Yijie Tao (The University of Melbourne, Australia); Sampath Edirisinghe (University of Sri Jayewardenepura, Sri Lanka); Lena Wosinska (Chalmers University of Technology, Sweden); Tingting Song (The University of Melbourne, Australia)	S8: Symposium on Optical Communications	
The 5G-IANA platform: Bringing far-edge resources and ML potential to the disposal of automotive third parties	Francesca Moscatelli (Nextworks, Italy); Thanos Xirofotos (UBITECH, Greece); Amr Rizk (University of Duisburg-Essen, Germany); Nehal Baganal Krishna (Universität Duisburg-Essen, Germany); Edoardo Bonetto (Fondazione LINKS, Italy); Eirini Liotou (National Technical University of Athens, Greece); Angelos Amditis (Institute of Communication and Computer Systems, Greece)	S10: Symposium on 5G for Connected and Automated Mobility	
Cooperative Spectrum Sensing based on Anomaly Detection and K Nearest Neighbors	Lizeth Lopez-Lopez (Universidad Autonoma de Baja California, Mexico); Ángel G. Andrade (Universidad Autónoma de Baja California & Facultad de Ingeniería, Mexico); Guillermo Galaviz (Universidad Autonoma de Baja California, Mexico)	Main Track 1: 5G & Future Networks' Technologies	
TinyDRaGon: Lightweight Radio Channel Estimation for 6G Pervasive Intelligence	Melina J. Geis, Benjamin Sliwa, Caner Bektas and Christian Wietfeld (TU Dortmund University, Germany)	S1: Symposium on 6G Mobile Networks	On-site
Hybrid Deep Learning for Channel Estimation and Power Allocation for MISO-NOMA System	Mohammad Gaballa (Brunel University London, United Kingdom (Great Britain))	S9: Symposium on AI/ML-Driven Communications	Remote
NeXT: A Software-Defined Testbed with Integrated Optimization, Simulation and Experiment	Jiangqi Hu (University of Buffalo, USA); Maxwell E McManus, Sabarish Krishna Moorthy, Yuqing Cui, Zhangyu Guan and Nicholas Mastronarde (University at Buffalo, USA); Elizabeth Serena Bentley (AFRL, USA); Michael Medley (US Air Force Research	WS5: Federated Testbed as a Service for Future Networks: Challenges & the State of the Art	

	Laboratory/Information Directorate & SUNY Polytechnic Institute, USA)		
OpenAirInterface as a platform for 5G-NTN Research and Experimentation	Sumit Kumar (SnT, University of Luxembourg, Luxembourg); Ashish Kumar Meshram (Ph.D., Luxembourg); Abdelrahman Astro and Jorge Querol (University of Luxembourg, Luxembourg); Thomas Schlichter (Fraunhofer IIS, Germany); Symeon Chatzinotas (University of Luxembourg, Luxembourg); Florian Kaltenberger (Eurecom, France); Adam Kapovits (Eurescom GmbH, Germany); Roberto Magueta (Instituto de Telecomunicações (IT)/University of Aveiro, Portugal); Thomas Heyn (Fraunhofer IIS, Germany); Florian Völk, Sertac Kaya, Robert T. Schwarz and Andreas Knopp (Bundeswehr University Munich, Germany); Luis Pereira (Allbesmart Lda, Portugal)	Main Track 1: 5G & Future Networks' Technologies	Remote
Multi-Stage, Dynamic Optimization of Wireless Network Slices with Polymorphic Algorithms	Kristen Young and Ravi Potluri (Verizon, USA); Jin Yang (Verizon Wireless, USA)	Main Track 1: 5G & Future Networks' Technologies	
A Framework for QoS-Enabled Semantic Routing in Industrial Networks: Overall Architecture and Primary Protocols	Paolo Bellavista (University of Bologna, Italy); Mattia Fogli (University of Ferrara, Italy); Luca Foschini (University of Bologna, Italy); Carlo Giannelli (University of Ferrara, Italy); Lorenzo Patera (University of Bologna, Italy); Cesare Stefanelli (University of Ferrara, Italy)	WS7: Next Generation Routing and Management Infrastructures in 6G	Remote
Millimeter-Wave Radio Link Analysis for 5G FWA by Combining Measurements and Geospatial Data	Norshahida Saba (Aalto University, Finland)	Main Track 3: 5G and Future Networks' Trials, Experimental Results and Deployment Scenarios	Remote

Intelligent Integrated Cross-layer Authentication for Efficient Mutual Verification in UDN with Guaranteed Security-of-Service	He Fang (Sochoow University, China); Xianbin Wang (Western University, Canada); Wenrun Zhu (Soochow University, China)	WS3: Incorporating Physical Layer Security in 6G Security Protocols	Remote
Physical Layer Security Based Enabling Technologies for 6G Communications Values	Eduard A Jorswieck (Technische Universität Braunschweig, Germany); Pin-Hsun Lin (TU Braunschweig, Germany); Carsten Janda (Technische Universität Braunschweig, Germany)	WS3: Incorporating Physical Layer Security in 6G Security Protocols	Remote
Decoupling Statistical Trends from Data Volume on LDP-Based Spatio-Temporal Data Collection	Taisho Sasada (Nara Institute of Science and Technology & Graduate School of Science and Technology, Japan); Yuzo Taenaka and Youki Kadobayashi (Nara Institute of Science and Technology, Japan)	S6: Symposium on Security for 5G and Future Networks	
5GRAIL paves the way to the Future Railway Mobile Communication System Introduction	Stefanos Gogos (Belgium); Vassiliki Nikolopoulou and Dan Mandoc (UIC, France); Sébastien Tardif (Kontron, Belgium); Nazih Salhab (France); Farid Bazizi (Kontron, France); Bernd Holfeld and Guillaume Jornod (DB Netz AG, Germany); Michael Kloecker (Nokia, Germany); Marion Berbineau (Université Gustave Eiffel, Belgium)	S10: Symposium on 5G for Connected and Automated Mobility	
A Novel RACH Scheme for Efficient Access in 5G and Beyond Networks using Hash Function	Siba Narayan Swain and Ashit Subudhi (Indian Institute of Technology Dharwad, India)	Main Track 1: 5G & Future Networks' Technologies	
Discovering the most urgent 5G services for the competitiveness of the port using an updated Analytic Hierarchic Process in the 5G-LOGINNOV project	Giulia Renzi (University of Modena and Reggio Emilia & ICOOR, Italy)	S10: Symposium on 5G for Connected and Automated Mobility	
[INVITED PAPER - Project 5GMETA] Life cycle management of automotive data functions in MEC infrastructures	Mikel Serón Esnal, Angel Martin and Gorka Velez (Vicomtech, Spain)	S10: Symposium on 5G for Connected and Automated Mobility	On-site



Network Traffic as a Federated Testbed Service	Jack Brassil (Princeton University, USA)	WS5: Federated Testbed as a Service for Future Networks: Challenges & the State of the Art	On-site
Multiobjective optimal sizing and energy planning in green cellular base stations	Zineb Garroussi (Polytechnique Montréal, Canada); Brunilde Sansò (Ecole Polytechnique de Montreal, Canada); Andre Girard (INRS-EMT and GERAD, Canada); Mathieu Damours and Abdoul Wassi Badirou (Polytechnique Montréal, Canada)	Main Track 2: 5G Applications and Services	
Outdoor-to-Indoor Performance Analysis of a Commercial Deployment of 5G mmWave	Muhammad Iqbal Rochman and Vanlin Sathya (University of Chicago, USA); Monisha Ghosh (University of Notre Dame, USA)	WS1: 5G Trials Across Multiple Vertical Industries - from Experiments to Business Validation	On-site
A Supra-Disciplinary Open Framework of Knowledge to Address the Future Challenges of a Network of Feelings	Jacopo Iannacci (Fondazione Bruno Kessler - FBK, Italy); Francesca Cavallo (Centro Di Terapia Metacognitiva Interpersonale, Italy); Carlo Fischione (KTH, Sweden)	S7: Symposium on Next-Generation Networking & Internet	On-site
[INVITED PAPER - PROJECT 5GASP] Dynamic Deployment and Testing of Virtual On-board Units in 5G	Jorge Gallego-Madrid (University of Murcia & Odin Solutions, Spain); Ana Hermosilla (Odin Solutions SL, Spain); Antonio F. Skarmeta (Odin Solutions S. L, Spain)	S10: Symposium on 5G for Connected and Automated Mobility	Remote
Agile Metropolitan Filterless Optical Networking	Christine Tremblay (Ecole de Technologie Superieure, Canada); Émile Archambault (Cegep Regional de Lanaudiere, Canada); Rodney Wilson (Chief Technologist, Research Networks, Canada); Stewart Clelland (Ciena, Canada); Marija Furdek and Lena Wosinska (Chalmers University of Technology, Sweden)	S8: Symposium on Optical Communications	
IRS - aided UAV Communications: A Survey and Future Research Opportunities	Anas Alkhatieb (Umm Al-Qura University/ RIKAZ Co., Saudi Arabia); Ramez Alkhatib (University of Hama, Syria)	S1: Symposium on 6G Mobile Networks	On-site
NextG Managed Access Systems (N-MAS) for Correctional-Facility Markets	Praveen Gupta (MITRE, USA)	Main Track 2: 5G Applications and Services	On-site
Reinforcement Learning in UAV-Communication Networks for Fighting	Yeosun Kyung (Yonsei University, Korea (South))	S9: Symposium on AI/ML-Driven Communications	

The Cost of Uncertainty: Impact of Overprovisioning on the Dimensioning of Machine Learning-based Network Slicing	Caner Bektas, Stefan Böcker and Christian Wietfeld (TU Dortmund University, Germany)	Main Track 1: 5G & Future Networks' Technologies	Remote
Influences of logical link design in 5G campus systems	Gustavo Cainelli (Institut Fur Automation Und Kommunikation, Germany); Lisa Underberg (Ifak, Germany); Lutz Rauchhaupt (Institut für Automation und Kommunikation e. V., Germany)	Main Track 3: 5G and Future Networks' Trials, Experimental Results and Deployment Scenarios	Remote
Fiber-to-The-Room (FTTR) Technologies for the 5th Generation Fixed Network (F5G) and Beyond	Xiang Liu (Huawei Technologies, China); Junwei Li (China Mobile Research Institute, China); Xuming Wu (Huawei Technologies, China); Jinglong Zhu (China Mobile Research Institute, China); Yan Zeng (Huawei Technologies, China); Da Liu (China Mobile, China); Eric Wang (Huawei Technologies Co., Ltd., China); Dechao Zhang (China Mobile Research Institute, China)	S8: Symposium on Optical Communications	On-site
Validating 5G Stand-Alone slicing advantages through a real life mobility scenario	Bastiaan Wissingh, Daan Ravesteijn and Ramon S. Schwartz (TNO, The Netherlands)	WS1: 5G Trials Across Multiple Vertical Industries - from Experiments to Business Validation	
Resource Allocation with Vickrey-Dutch Auctioning Game for C-RAN Fronthaul	Doruk Sahinel (Eindhoven University of Technology, The Netherlands & Technische Universität Berlin, Germany); Simon Rommel and Idelfonso Tafur Monroy (Eindhoven University of Technology, The Netherlands)	Main Track 1: 5G & Future Networks' Technologies	Remote
Enabling Network and Service Programmability in 6G Mobile Communication Systems	Mohammad Asif Habibi (University of Kaiserslautern, Germany); Adrián Gallego Gallego Sánchez and Ignacio Labrador Pavon (Atos Research and Innovation, Spain); Bin Han (Technische Universität Kaiserslautern, Germany); Giada Landi (Nextworks, Italy); Bessem Sayadi (Nokia Bell-Labs, France); Christos Ntogkas and Ioannis-Prodromos Belikaidis (WINGS ICT Solutions, Greece); Hans Dieter Schotten (Deutsches	WS4: Workshop on Autonomic/Autonomous Networking and Autonomy in Future Networks, Interoperability & APIs, Progress & Open Challenges in Standards	On-site

	Forschungszentrum für Künstliche Intelligenz GmbH, Germany); Pablo Serrano and Jesús Pérez-Valero (Universidad Carlos III de Madrid, Spain); Antonio Viridis (University of Pisa, Italy)		
[INVITED PAPER - Project 5GMED] 5GMED Architecture for Automotive and Railway Communication Services in Cross-Border Scenarios	Jad Nasreddine and Estela Carmona-Cejudo (i2CAT Foundation, Spain); Ricard Vilalta (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC/CERCA), Spain); Raul Parada (Catalan Telecommunications Technology Centre CTTC, Spain); Philippe Veysiere (IRT Saint Exupery, France); Angelos Antonopoulos (NearbyComputing, Spain); José López Luque and Judit Bastida (Cellnex Telecom, Spain); Raul Gonzalez (Cellnex Telecom.com, Spain); George Triantafyllou (Athens Technology Center, Greece); Nuria Trujillo Quijada and Jorge García Hospital (Hispasat Madrid, Spain); Julian P Garbiso (Vedecom, France); Francisco Vázquez-Gallego (i2CAT, Spain)	S10: Symposium on 5G for Connected and Automated Mobility	
A Streamlit-based Artificial Intelligence Trust Platform for Next-Generation Wireless Networks	Murat Kuzlu (Old Dominion University, USA); Ferhat Ozgur Catak (University of Stavanger, Norway); Salih Sarp (Virginia Commonwealth University & Old Dominion University, USA); Umit Cali (NTNU, USA); Oezguer Gueler (Old Dominion University, USA)	WS2: Workshop on Artificial-Intelligence-Enabled Future Networks: A Cross-layer Perspective	
Business Case Evaluation of Cooperative, Connected and Automated Mobility Service Provision in cross-border settings	Asma Chiha (University of Gent & IMEC, Belgium)	S10: Symposium on 5G for Connected and Automated Mobility	

[INVITED PAPER - Project 5G-CARMEN]			
Machine learning for localization in LoRaWAN: a case study with data augmentation	Luz Enith Marquez (Institución Universitaria ITSA, Colombia & Universidad del Norte, Colombia); Maria Calle (Universidad del Norte, Colombia)	S4: Symposium on IoT & Sensor Networks	
An edge-based Machine Learning-enabled approach in Structural Health Monitoring for public protection	Claudia Rinaldi (University of L'Aquila, Italy); Francesco Smarra (University of L'Aquila, Italy); Fabio Franchi (University of L'Aquila, Italy); Fabio Graziosi (University of L'Aquila, Italy); Alessandro D'Innocenzo (University of L'Aquila, Italy)	S4: Symposium on IoT & Sensor Networks	On-site
Machine Learning Aided Design of Sub-Array MIMO Antenna for CubeSat Based on 3D Printed Metallic Ridge Gap Waveguide	Mohammed Farouk Nakmouche (Ecole de Technologie Supérieure, Canada); Dominic Deslandes (École de technologie supérieure, Canada); Ghyslain Gagnon (ETS, Canada)	S5: Symposium on SAT & Space Communications	
Efficient Transfer Learning in 6G	Saeedeh Parsaeefard and Alberto Leon-Garcia (University of Toronto, Canada)	S1: Symposium on 6G Mobile Networks	On-site
Towards Interaction and Conflict Management in AI-assisted Operational Control Loops in 6G	Saeedeh Parsaeefard, Pooyan Habibi and Alberto Leon-Garcia (University of Toronto, Canada)	Main Track 1: 5G & Future Networks' Technologies	On-site
Performance Validation Strategies for 5G-enhanced Transport & Logistics in the Pilot Trials: The 5G-Blueprint Approach	Nina Slamnik-Krijestorac (University of Antwerp, IDLab-imec, Belgium); Wim Vandenberghe (Ministerie van Infrastructuur en Waterstaat, The Netherlands); Rakshith Kusumakar (V-TRON, The Netherlands); Karel Kural (HAN University of Applied Sciences, The Netherlands); Matthijs Klepper (KPN, Mobile Innovation Radio, The Netherlands); Geerd Kakes (KPN, The Netherlands); Linde Vande Velde (Be-Mobile, Belgium); Johann M. Marquez-Barja (University of Antwerpen & imec, Belgium)	S10: Symposium on 5G for Connected and Automated Mobility	

OSC Community Lab: The Integration Test Bed for O-RAN Software Community	Fransiscus Asisi Bimo, Ferlinda Feliana, Shu-Hua Liao and Chih-Wei Lin (National Taiwan University of Science and Technology, Taiwan); James Li (China Mobile Technology (USA) Inc., USA); Rittwik Jana (Google, USA); Richard Wright (AT&T, USA); Ray-Guang Cheng (National Taiwan University of Science and Technology, Taiwan)	Main Track 2: 5G Applications and Services	On-site
[INVITED PAPER - Project 5GMETA] Driving Safety & Awareness Cooperative Business Model exploiting the 5GMETA platform	Clara Canova, Francesca Pacella and Daniele Brevi (Fondazione LINKS, Italy); Michela Apruzzese and Roberto Cavicchioli (University of Modena and Reggio Emilia, Italy)	S10: Symposium on 5G for Connected and Automated Mobility	
Security and 5G: Attack mitigation using Reinforcement Learning in SDN networks	Jose Alvaro Fernandez Carrasco, Lander Segurola Gil, Francesco Zola and Raul Orduna Urrutia (Vicomtech, Spain)	Main Track 1: 5G & Future Networks' Technologies	Remote
An Architecture for Autonomic Networks	Petar Djukic (Ciena, Canada)	WS4: Workshop on Autonomic/Autonomous Networking and Autonomy in Future Networks, Interoperability & APIs, Progress & Open Challenges in Standards	
SDAC: An Architectural Enhancement to enable Artificial Intelligence in 5G Systems	Morteza Kheirkhah (Interdigital, United Kingdom (Great Britain) & University College London, United Kingdom (Great Britain)); Ulises Olvera-Hernandez (InterDigital Communications, United Kingdom (Great Britain)); Tezcan Cogalan and Alain Abdel-Majid Mourad (InterDigital, United Kingdom (Great Britain))	Main Track 1: 5G & Future Networks' Technologies	
QUIC Bitcoin: fast and secure peer-to-peer payments and payment channels	Alessio Pagani (nChain, United Kingdom (Great Britain) & IMI University of Bath, United Kingdom (Great Britain))	S2: Symposium on Blockchain Future Networks	On-site
Offloading in 5G Cellular Networks: Unexplored Strategies	Gourish Goudar (Nitte Meenakshi Institute of Technology, India); Sanket Mishra (VITAP University, India)	S7: Symposium on Next-Generation Networking & Internet	

Distributed Channel Access with no Multiple Access Interference in Multi-Hop Wireless Networks	Dylan J Cirimelli-Low (University of California, Santa Cruz, USA); Jj Garcia-Luna-Aceves (University of California at Santa Cruz, USA)	S4: Symposium on IoT & Sensor Networks	Remote
Jamming Threats And Countermeasures of the Terahertz OOK Mode in IEEE 802.15.3d	Hichem Guerboukha, Rabi Shrestha and Zhaoji Fang (Brown University, USA); Josep M Jornet (Northeastern University, USA); Edward W. Knightly (Rice University, USA); Daniel Mittleman (Brown University, USA)	WS3: Incorporating Physical Layer Security in 6G Security Protocols	
Attack Graphs for Standalone Non-Public 5G Networks	Arpit Tripathi (Indian Institute of Technology Hyderabad & Institute for Development and Research in Banking Technology, India); Abhishek Thakur (IDRBT, India); Bheemarjuna Reddy Tamma (IIT Hyderabad, India)	Main Track 5: 5G & Future Networks' Special Topicals	
Providing Continuous 5G Connectivity along Ferry Lines - Concepts and Trials of 5G-ROUTES Project [INVITED PAPER - Project 5G-ROUTES]	Helmut Zaglauer (Airbus Defense and Space, Germany); Arturs Lindenbergs (LMT, Latvia); Matti Lankinen (Vedafi, Finland); Kati Korbe Kaare and Kristjan Kuhi (Ericsson Estonia, Estonia); Miquel Payaró (CTTC, Spain)	S10: Symposium on 5G for Connected and Automated Mobility	
A Shapley value-enhanced evaluation technique for effective aggregation in Federated Learning	Mohammadreza Salarbashishahri, Samuel Dayo Okegbile and Jun Cai (Concordia University, Canada)	Main Track 1: 5G & Future Networks' Technologies	
5GCroCo: Key 5G technologies and trial results for seamless cross-border CAM services (Invited Paper)	Selva Via and Miquel Payaró (CTTC, Spain); Kurt Eckert (BOSCH, Germany); Maciej Muehleisen (Ericsson GmbH, Germany); Stefan Wendt (Orange Labs, France); Edwin Fischer (Deutsche Telekom AG, Germany); Dirk Hetzer (T-Systems, Germany); Apostolos Kousaridas (Huawei Technologies, Germany)	S10: Symposium on 5G for Connected and Automated Mobility	Remote

Under Trial: Evolved Service-Based Architecture Platform for Mobile Telecommunication Networks	Sebastian Robitzsch (InterDigital Europe, United Kingdom (Great Britain)); Josep Ribes (Universitat Politecnica de Valencia, Spain); Andre S. Gomes (OneSource, Portugal); Hergys Rexha (Abo Akademi University, Finland); Luis Cordeiro (OneSource, Portugal); Mohamad Kenan Al-Hares (InterDigital Europe Ltd., United Kingdom (Great Britain)); Marius Corici (Fraunhofer FOKUS, Germany); David Gomez-Barquero (Universitat Politecnica de Valencia, Spain)	Main Track 3: 5G and Future Networks' Trials, Experimental Results and Deployment Scenarios	On-site
Achieving Linear Scaling in Provisioning End-to-End Network Slicing	Omar Abdul Latif (Rochester Institute of Technology, USA); Muhieddin Amer (Rochester Institute of Technology, United Arab Emirates); Andres Kwasinski (Rochester Institute of Technology, USA)	Main Track 1: 5G & Future Networks' Technologies	Remote
Measurement of sub-GHz Band LPWA Propagation at Half-Wavelength Intervals	Natsuki Miyoshi, Tomoyuki Kawashima and Shusuke Narieda (Mie University, Japan); Takeo Fujii (The University of Electro-Communications, Japan); Hiroshi Naruse (MIE UNIV, Japan)	S4: Symposium on IoT & Sensor Networks	Remote
Trust-enhanced blockchain-enabled framework for secure and privacy-preserving data sharing systems	Arian Fotouhi (Concordia University, Canada); Samuel Dayo Okegbile (University of Pretoria, South Africa); Jun Cai (Concordia University, Canada)	Main Track 2: 5G Applications and Services	
Personalized Federated Learning for Automotive Intrusion Detection Systems	Kabid Hassan Shibly and Md Delwar Hossain (Nara Institute of Science and Technology, Japan); Hiroyuki Inoue (Kyoto Sangyo University, Japan); Yuzo Taenaka and Youki Kadobayashi (Nara Institute of Science and Technology, Japan)	Main Track 2: 5G Applications and Services	Remote

Railway services support over a 5G infrastructure exploiting a multi-technology wireless transport network [INVITED PAPER - Project 5G-VICTORI]	Darko Cvetkovski (IHP - Leibniz-Institut Für Innovative Mikroelektronik, Germany); Nebojsa Maletic and Jesús Gutiérrez (IHP - Leibniz-Institut für Innovative Mikroelektronik, Germany); Paris Flegkas (University of Thessaly, Greece); Alexandros Dalkalitsis and Petros Arvanitis (TRAINOSE, Greece); Markos Anastasopoulos (University of Bristol, United Kingdom (Great Britain)); Anna Tzanakaki (National and Kapodistrian University of Athens, Greece)	S10: Symposium on 5G for Connected and Automated Mobility	
Cost-Efficient Optical Fronthaul Architectures for 5G and Beyond Networks	Abdulhalim Fayad (Budapest University of Technology and Economics, Hungary); Jacek Rak (Gdansk University of Technology, Poland); Tibor Cinkler (Budapest University of Technology and Economics, Hungary)	S8: Symposium on Optical Communications	On-site
Angle of Arrival Estimation for Terahertz-enabled Space Information Networks	Hasan Nayir (Istanbul Technical University, Turkey); Gunes Karabulut Kurt (Ecole Polytechnique de Montreal, Canada); Ali Gorcin (Yildiz Technical University, Turkey)	Main Track 1: 5G & Future Networks'	Technologies
A Score Function Heuristic for Crosstalk- and Fragmentation-Aware Dynamic Routing, Modulation, Core, and Spectrum Allocation in SDM-EONS	Jaya Lakshmi Ravipudi and Maite Brandt-Pearce (University of Virginia, USA)	S8: Symposium on Optical Communications	
5G-MOBIX: The Spain - Portugal Cross - Border Corridor, results of 5G application in shuttle vehicle use cases	Irene Saco Lopez (CTAG, Spain); Marta Miranda Dopico (CTAG - Automotive Technology Centre of Galicia, Spain); Jaime Jesús Ruiz Alonso (Nokia XR Lab, Spain); Ignacio Benito Frontelo (Nokia Bell Labs, Spain)	S10: Symposium on 5G for Connected and Automated Mobility	
H2020 ICT-18 projects 5G-CARMEN, 5GCroCo and 5G-MOBIX: Deployment studies on cross-border 5G for CAM (invited paper)	Edwin Fischer (Deutsche Telekom AG, Germany); Jose F Monserrat (Universitat Politècnica de València, Spain); Outmane Laaroussi (Deutsche Telekom AG, Germany); Olga Segou (Intrasoft, Greece); Roman Saakel and Timothe Scheich (Detecon International, Germany);	S10: Symposium on 5G for Connected and Automated Mobility	



	David Garcia-Roger (Universitat Politècnica de València, Spain)		
Data Streaming over Bitcoin Payment Channels	Jack Owen Davies (University of Bath & nChain, United Kingdom (Great Britain)); Wei Zhang (nChain, United Kingdom (Great Britain))	S2: Symposium on Blockchain Future Networks	On-site
Performance Analysis of Large Aperture mMIMO UCCA Arrays in a 5G User Dense Network	Md Imrul Hasan (The University of Texas at Dallas, USA)	Main Track 1: 5G & Future Networks' Technologies	
Future 5G network implementation and open testbeds deployment for real 5G experiments	Bogdan Rusti (Orange Romania, Romania); Marius Iordache (Orange, Romania); Oana Badita (Orange Romania, Romania); Andreea Bonea (Orange Romania S.A., Romania); George Suci (Politehnica University of Bucharest & BEIA Consult International SRL, Romania); Eleni Giannopoulou (WINGS ICT Solutions & National Technical University of Athens, Greece); Giada Landi (Nextworks, Italy); Nina Slamnik-Krijestorac (University of Antwerp, IDLab-imec, Belgium)	S10: Symposium on 5G for Connected and Automated Mobility	
On Securing MAC Layer Broadcast Signals Against Covert Channel Exploitation in 5G, 6G & Beyond	Reza S Soosahabi (University of Louisiana Lafayette & Keysight Technologies, USA); Magdy A Bayoumi (University of Louisiana Lafayette, USA)	Main Track 5: 5G & Future Networks' Special Topicals	Remote
Resource Allocation Using Filtennas in the Presence of Leakage	Ishani Majumdar (Rutgers University, USA); Narayan Mandayam (WINLAB, Rutgers University, USA); Behzad Golparvar and Chung-Tse Michael Wu (Rutgers University, USA); Joseph F Brodie (Rutgers, The State University of New Jersey, USA); Ruo-Qian Wang and Shaghayegh Vosoughitabar (Rutgers University, USA)	Main Track 1: 5G & Future Networks' Technologies	
Energy-Efficient Massive MIMO Design: Optimal Number of Antennas	Mohammed Abuibaid and Marc St-Hilaire (Carleton University, Canada); Sultan Aldirmaz Çolak	Main Track 1: 5G & Future Networks' Technologies	Remote

Ensuring Guaranteed Bit Rate	(Kocaeli University, Turkey); Imad Eid (Ooredoo Palestine, Palestine)		
Impact of Man-in-the-Middle Attacks to the O-RAN Inter-Controllers Interface	Walter Tiberti, Eleonora Di Fina, Andrea Marotta and Dajana Cassioli (University of L'Aquila, Italy)	S6: Symposium on Security for 5G and Future Networks	
5G-MOBIX The Greece-Turkey Cross-Border Corridor 5G Deployment and Use Cases Results	Gokhan Kalem (Turkcell Technology, Turkey); Serhat Col (Ericsson Turkey, Turkey); Maciej Muehleisen (Ericsson GmbH, Germany); Fotini Setaki (COSMOTE Mobile Telecommunications S.A. Greece, Greece); Sotiris Messinis (ICCS, Greece); Konstantinos V. Katsaros (Institute of Communication and Computer Systems (ICCS), Greece); Andreas Georgakopoulos (WINGS ICT Solutions, Greece); Tahir Sari (FORD OTOSAN, Turkey); Arda Taha Candan (TUBITAK BILGEM, Turkey)	S10: Symposium on 5G for Connected and Automated Mobility	
Towards Private 5G O-RAN Implementation: Performance and Business Validation	Vanlin Sathya (University of Chicago, USA); Lyutianyang Zhang and Mehmet Yavuz (Celona, USA)	WS5: Federated Testbed as a Service for Future Networks: Challenges & the State of the Art	
On Crossover Distance for Optical Wireless Satellite Networks and Optical Fiber Terrestrial Networks	Aizaz U Chaudhry and Halim Yanikomeroglu (Carleton University, Canada)	S5: Symposium on SAT & Space Communications	Remote
Unauthorized Power Usage Detection in Disaggregated Smart Meter Home Network	Olufemi A Abraham and Kabid Hassan Shibly (Nara Institute of Science and Technology, Japan); Hideya Ochiai (University of Tokyo, Japan); Md Delwar Hossain, Yuzo Taenaka and Youki Kadobayashi (Nara Institute of Science and Technology, Japan)	Main Track 2: 5G Applications and Services	On-site
Extending the Network Service Descriptor to Capture User Isolation Intents for Network Slices	Nour Gritli (Ericsson, Canada); Ferhat Khendek (Concordia University, Canada); Maria Toeroe (Ericsson, Canada)	Main Track 1: 5G & Future Networks' Technologies	Remote

An Experimental 5G Testbed for Secure Network Slicing Evaluation	Hisham A. Kholidy (State University of New York (SUNY) Polytechnic Institute, USA); Andrew Karam (Air Force Research Lab(AFRL) & RIGB, USA); Jeffrey Reed (Virginia Tech, USA); Yusuf Elazzazi (Advanced Cybersecurity Research Lab- ACRL & SUNY POLY, USA)	Main Track 3: 5G and Future Networks' Trials, Experimental Results and Deployment Scenarios	
ETSI ZSM Driven Security Management in Future Networks	Geoffroy Chollon and Dhouha Ayed (Thales, France); Rodrigo Asensio-Garriga, Alejandro Molina Zarca and Antonio Fernando Skarmeta Gomez (University of Murcia, Spain); Maria Christopoulou (NCSR Demokritos, Greece); Wissem Soussi (Zurich University of Applied Sciences (ZHAW) & University of Zürich (UZH), Switzerland); Gürkan Gür (Zurich University of Applied Sciences (ZHAW), Switzerland); Uwe Herzog (Eurescom, Germany)	S6: Symposium on Security for 5G and Future Networks	
Better Safe Than Sorry: Distributed Testbed for Performance Evaluation of Private Networks	Christian Arendt, Stefan Böcker, Caner Bektas and Christian Wietfeld (TU Dortmund University, Germany)	Main Track 3: 5G and Future Networks' Trials, Experimental Results and Deployment Scenarios	On-site
Pre-connect Handover Management for 5G Networks	Yao Wei (Carleton University, Canada); Ricardo Paredes Cabrera (Ericsson, Canada); Chung-Horng Lung and Samuel Ajila (Carleton University, Canada)	Main Track 1: 5G & Future Networks' Technologies	
QoE Evaluation of Integrated Satellite-Terrestrial Network on a Real-World Testbed	Mahshid Noorani (University of Maryland, USA); Asim Zoukarni (University of Maryland, College Park, USA); John S. Baras (University of Maryland, USA)	Main Track 3: 5G and Future Networks' Trials, Experimental Results and Deployment Scenarios	
Vision-Assisted User Clustering for Robust mmWave-NOMA Systems	Aditya Rajasekaran (Carleton University & Ericsson, Canada); Hamza Sokun (Ericsson, Canada); Omar Maraqa (King Fahd University of Petroleum and Minerals, Saudi Arabia); Halim Yanikomeroglu (Carleton University, Canada); Saad Al-Ahmadi (King Fahd University of Petroleum and Minerals, Saudi Arabia)	Main Track 1: 5G & Future Networks' Technologies	Remote

5GLoR: 5G LAN Orchestration for enterprise IoT applications	Sandesh Dhawaskar Sathyanarayana (University of Colorado Boulder, USA); Murugan Sankaradas (NEC Laboratories America Inc., USA); Srimat Chakradhar (NEC Research Labs, USA)	Main Track 1: 5G & Future Networks' Technologies	Remote
In-Slice Management Decomposition and Implementation Issues	Slawomir Kuklinski (Orange Polska & Warsaw University of Technology, Poland)	WS4: Workshop on Autonomic/Autonomous Networking and Autonomy in Future Networks, Interoperability & APIs, Progress & Open Challenges in Standards	On-site
Autonomic/Autonomous Networking (AN): Federations & Governance of ANs, Progress & Open Challenges in Standards: Analysis Report	Ranganai Chaparadza (IPv6 Forum, Germany); Muslim Elkotob (Vodafone, Germany); Benoit Radier (Orange Labs, France); Tayeb Ben Meriem (IPv6 Forum, Germany); Eman Hammad (University of Toronto, Canada); Taesang Choi (Electronic and Telecommunications Research Institute, Korea (South))	WS4: Workshop on Autonomic/Autonomous Networking and Autonomy in Future Networks, Interoperability & APIs, Progress & Open Challenges in Standards	
A Lightweight Hash-Chain-Based Multi-Node Mutual Authentication Algorithm for IoT Networks	Shengli Yuan (University of Houston - Downtown, USA)	S4: Symposium on IoT & Sensor Networks	Remote
An Innovative Hashgraph-based Federated Learning Approach for 5G Network Protection	Hisham A. Kholidy (State University of New York (SUNY) Polytechnic Institute, USA); Riaad Kamaludeen (SUNY Polytechnic Institute, USA)	Main Track 5: 5G & Future Networks' Special Topicals	
Autoencoder Communications with Optimized Interference Suppression for NextG RAN	Kemal Davaslioglu (University Technical Services & Maryland Advanced Development Laboratories, University Research Foundation, USA); Tugba Erpek and Yalin E Sagduyu (Virginia Tech, USA)	Main Track 1: 5G & Future Networks' Technologies	
Jamming Attacks on NextG Radio Access Network Slicing with Reinforcement Learning	Yi Shi, Yalin E Sagduyu and Tugba Erpek (Virginia Tech, USA); M. Cenk Gursoy (Syracuse University, USA)	Main Track 1: 5G & Future Networks' Technologies	
Cloud Native Applications Profiling using a Graph Neural Networks Approach	Amine Boukhtouta (Ericsson Research, Canada); Taous Madi (King Abdullah University of Science and Technology, Saudi Arabia); Makan	WS2: Workshop on Artificial-Intelligence-Enabled Future	On-site

	Pourzandi (Ericsson, Canada); Hyame Alameddine (Ericsson Research, Canada)	Networks: A Cross-layer Perspective	
A Learning-Based Zero-Trust Architecture for 6G and Future Networks	Michael A. Enright (Quantum Dimension, Inc., USA); Eman Hammad (University of Toronto, Canada); Ashutosh Dutta (Johns Hopkins University Applied Physics Labs (JHU/APL), USA)	S6: Symposium on Security for 5G and Future Networks	Remote
Comparison of Traditional ML Algorithms for Energy Consumption Prediction Models	Rebeca Estrada (Escuela Superior Politécnica del Litoral, Espol, Guayaquil, Ecuador & Facultad de Ingeniería en Electricidad y Computación, Ecuador); Víctor Asanza (Escuela Superior Politécnica del Litoral, Ecuador); Danny Torres (Escuela Superior Politecnica del Litoral, Guayaquil, Ecuador); Irving Valeriano (Escuela Superior Politecnica del Litoral, Ecuador); Daniel Alvarado Pelaez (Escuela Superior Politecnica del Litoral, Espol, Ecuador)	Main Track 2: 5G Applications and Services	On-site
Cost-efficient Federated Reinforcement Learning-Based Network Routing for Wireless Networks	Zakaria Abou El Houda (University of Montreal, Canada); Diala Naboulsi (École de Technologie Supérieure, Canada); Georges Kaddoum (ETS Engineering School, University of Québec, Canada)	WS7: Next Generation Routing and Management Infrastructures in 6G	Remote
Digital Divide Among Persons with Disabilities: the use of Mobile phones as enablers in Tanzania	Msafiri M Ngololo, Jr (Human Rights Commission & Research Organization, Tanzania)	S3: Symposium on Connecting the Un/Under-Connected in 5G and Future Networks	
SliceSecure: Impact and Detection of DoS/DDoS Attacks on 5G Network Slices	Md Sajid Khan, Behnam Farzaneh and Nashid Shahriar (University of Regina, Canada); Niloy Saha and Raouf Boutaba (University of Waterloo, Canada)	S6: Symposium on Security for 5G and Future Networks	Remote
Community CBRS Networks - What You Need to Know	Filippo Malandra (University at Buffalo, USA); Mari Silbey (US Ignite, Inc., USA); Rolando Alvarez (DigitalC, USA); Bob Cacace (City of Yonkers, USA); Troy Hege (Purdue Research Foundation, USA)	Main Track 1: 5G & Future Networks' Technologies	