

| | Regular | Symposium_Papers | Short papers | Doctoral Track - Full papers | Doctoral Track - Promising ideas | Demo |
|--|---------|------------------|--------------|------------------------------|----------------------------------|------|
|--|---------|------------------|--------------|------------------------------|----------------------------------|------|

Sunday, October 3

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|-------------|---|--|--|--|--|--|
| 22:00-23:00 | Soc_1: <i>Optional Pre-conferene social</i> | | | | | |
|-------------|---|--|--|--|--|--|

Monday, October 4

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|-------------|---|--|--|--|--|--|
| 14:30-15:00 | Intro: <i>Opening and welcoming remarks</i> | | | | | |
| 15:00-16:00 | Key_1: <i>Keynote 1: Dr. Melike Erol-Kantarci</i> | | | | | |
| 16:00-17:30 | Plenary: <i>Plenary Session</i> | | | | | |
| 17:30-18:30 | LB_1: <i>Lunch Break</i> | | | | | |
| 18:30-20:00 | R1: <i>Regular Papers 1</i> | | | | | |
| 20:00-20:30 | SB_1: <i>Social Break</i> | | | | | |
| 20:30-22:30 | R2: <i>Regular Papers 2</i> | | | | | |

Tuesday, October 5

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|-------------|--|--|--|--|--|--|
| 15:00-16:00 | Key_2: <i>Keynote 2: Dr. Xiaoming Fu</i> | | | | | |
| 16:00-17:30 | R3: <i>Regular Papers 3</i> | | | | | |
| 17:30-18:30 | LB_2: <i>Lunch Break</i> | | | | | |
| 18:30-20:00 | R4: <i>Regular Papers 4</i> | | | | | |

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|-------------|-----------------------------|-----------------------------|--|--|--|--|--|
| 20:00-20:30 | SB_2: <i>Social Break</i> | | | | | | |
| 20:30-22:30 | R5: <i>Regular Papers 5</i> | R6: <i>Regular Papers 6</i> | | | | | |

Wednesday, October 6

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|-------------|--|------------------------|-----------------------------|-----------------------------|--|--|--|
| 15:00-16:00 | Key_3: <i>Keynote 3: Dr. Matti Latva-aho</i> | | | | | | |
| 16:00-17:30 | | Symp: <i>Symposium</i> | | | | | |
| 17:30-18:30 | LB_3: <i>Lunch Break</i> | | | | | | |
| 18:30-20:00 | N2W: <i>N2Women panel</i> | | | | | | |
| 20:00-20:30 | SB_3: <i>Invitation to LCN 2022</i> | | | | | | |
| 20:30-22:30 | | | Sh_1: <i>Short papers 1</i> | Sh_2: <i>Short papers 2</i> | | | |

Thursday, October 7

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|-------------|---------------------------|--|-----------------------------|-----------------------------|--------------------------------|--------------------------------|-----------------------------|
| 14:30-16:00 | | | | | | | Demo: <i>Demonstrations</i> |
| 16:00-16:30 | SB_4: <i>Social Break</i> | | | | | | |
| 16:30-18:00 | | | | | Doc_1: <i>Doctoral Track 1</i> | Doc_2: <i>Doctoral Track 2</i> | |
| 18:00-19:00 | LB_4: <i>Lunch Break</i> | | | | | | |
| 19:00-20:30 | | | Sh_3: <i>Short papers 3</i> | Sh_4: <i>Short papers 4</i> | | | |

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|-------------|---|--|--|-----------------------------------|--|--|--|
| 20:30-21:00 | Awards: <i>Best Paper and Demo awards</i> | | | | | | |
| 21:00-22:00 | | | | Doc_3: <i>Doctoral Track 3</i> | | Doc_4: <i>Doctoral Track - Promising ideas</i> | |
| 22:00-22:30 | Wrap: <i>Wrap-up remarks!</i> | | | | | | |

Sunday, October 3

Sunday, October 3 22:00 - 23:00 (UTC)

Soc_1: Optional Pre-conference social

Room: Wonder

Monday, October 4

Monday, October 4 14:30 - 15:00 (UTC)

Intro: Opening and welcoming remarks

Room: Zoom 1

Chair: Karl Andersson (Luleå University of Technology, Sweden)

Monday, October 4 15:00 - 16:00 (UTC)

Key_1: Keynote 1: Dr. Melike Erol-Kantarci

AI-Enabled Wireless Networks: A Vision for 6G

Dr. Melike Erol-Kantarci

Room: Zoom 1

Chair: Karl Andersson (Luleå University of Technology, Sweden)

Monday, October 4 16:00 - 17:30 (UTC)

Plenary: Plenary Session

Room: Zoom 1

Chairs: Lyes Khoukhi (ENSICAEN, Normandie University, GREYC CNRS Lab., France), Sharief Oteafy (DePaul University, USA)

Data-Quality Based Scheduling for Federated Edge Learning  

Afaf Taïk (Université de Sherbrooke, Canada); Hajar Moudoud (Université de Sherbrooke, Canada); Soumaya Cherkaoui (Université de Sherbrooke, Canada)

A Truly Self-Sovereign Identity System  

Quinten Stokkink and Georgy Ishmaev (Delft University of Technology, The Netherlands); Dick Epema (Delft University of Technology & Eindhoven University of Technology, The Netherlands); Johan Pouwelse (Delft University of Technology, The Netherlands)

Blockchain Layer Zero: Characterizing the Bitcoin Network Through Measurements, Models, and Simulations  

Elias Rohrer (Technical University of Berlin, Germany); Florian Tschorsch (Technische Universität Berlin, Germany)

Monday, October 4 17:30 - 18:30 (UTC)

LB_1: Lunch Break

Room: Wonder

Monday, October 4 18:30 - 20:00 (UTC)

R1: Regular Papers 1

Machine Learning and AI

Room: Zoom 1

Transfer Learning-Based Accelerated Deep Reinforcement Learning for 5G RAN Slicing  

Ahmad M. Nagib (Queen's University, Canada); Hatem Abou-Zeid (University of Calgary, Canada); Hossam S. Hassanein (Queen's University, Canada)

SecGrid: A Visual System for the Analysis and ML-Based Classification of Cyberattack Traffic  

Muriel F. Franco, Jan von der Assen, Luc Boillat, Christian Killer and Bruno Rodrigues (University of Zurich, Switzerland); Eder J. Scheid (University of Zürich, Switzerland); Lisandro Z Granville (Federal University of Rio Grande do Sul, Brazil); Burkhard Stiller (University of Zürich, Switzerland)

Toward Driver Intention Prediction for Intelligent Vehicles: A Deep Learning Approach  

Mozhgan Nasr Azadani and Azzedine Boukerche (University of Ottawa, Canada)

A Deep Reinforcement Learning Approach for Service Migration in MEC-Enabled Vehicular Networks  

Amine Abouaoumar (ENSIAS, Mohammed V University of Rabat, Morocco & Université de Sherbrooke, Canada); Zoubeir Mlika (University of Sherbrooke, Canada); Abderrahime Filali and Soumaya Cherkaoui (Université de Sherbrooke, Canada); Abdellatif Kobbane (ENSIAS, Mohammed V University in Rabat, Morocco)

Multi-Level Graph Attention Network Based Unsupervised Network Alignment  

Yilin Xiao and Ruimin Hu (Wuhan University, China); Dengshi Li (Jiangnan University, China); Junhang Wu, Yu Zhen and Lingfei Ren (Wuhan University, China)

Monday, October 4 20:00 - 20:30 (UTC)

SB_1: Social Break

Room: Wonder

Monday, October 4 20:30 - 22:30 (UTC)

R2: Regular Papers 2

Network Management

Room: Zoom 1

Déjà Vu? Client-Side Fingerprinting and Version Detection of Web Application Software  

Fabian Marquardt and Lennart Buhl (University of Bonn, Germany)

On the Benefits of Loops for Segment Routing Traffic Engineering  

Alexander Brundiers (Osnabrück University, Germany); Timmy Schüller (Deutsche Telekom Technik GmbH & Osnabrück University, Germany); Nils Aschenbruck (Osnabrück University, Germany)

ASER: Scalable Distributed Routing Protocol for LEO Satellite Networks  

Xiang Zhang, Yuan Yang and Mingwei Xu (Tsinghua University, China); Jing Luo (ByteDance, China)

Less is More: Choosing Fair Network Coding Parameters  

Stefanie Thieme, Bertram Schütz and Nils Aschenbruck (Osnabrück University, Germany)

Adaptive Warden Strategy for Countering Network Covert Storage Channels  

Mehdi Chourib (FernUniversität in Hagen, Germany); Steffen Wendzel (Worms University of Applied Sciences, Germany); Wojciech Mazurczyk (Warsaw University of Technology & Faculty of Electronics and Information Technology, Institute of Telecommunications, Poland)

Iterative Soft Decoding of Single Parity Check Convolutional Concatenated Code  

Junmei Chen (Wuhan University, China); Hao Chen (Huawei Technologies Co., Ltd., China); Zongpeng Li (Wuhan University & University of Calgary, China)

Tuesday, October 5

Tuesday, October 5 15:00 - 16:00 (UTC)

Key_2: Keynote 2: Dr. Xiaoming Fu

Automated Management of Softwarized and Virtualized Network Functions

Dr. Xiaoming Fu

Room: Zoom 1

Chair: Karl Andersson (Luleå University of Technology, Sweden)

Tuesday, October 5 16:00 - 17:30 (UTC)

R3: Regular Papers 3

Adaptive networking

Room: Zoom 1

On the Potential of Rate Adaptive Point Cloud Streaming on the Point Level

Dominic Laniewski and Nils Aschenbruck (Osnabrück University, Germany)

SDN-Based Self-Configuration for Time-Sensitive IoT Networks

Nurefşan Sertbaş Bülbül (University of Hamburg, Germany); Doğanalp Ergenç and Mathias Fischer (University Hamburg, Germany)

MonGNN: A Neuroevolutionary-Based Solution for 5G Network Slices Monitoring

Anouar Rkhami (Inria, Univ Rennes, CNRS, IRISA, France); Yassine Hadjadj-Aoul (University of Rennes 1, France); Gerardo Rubino (INRIA, France); Abdelkader Outtagarts (Nokia Bell Labs France, France)

Slice Aware Non Terrestrial Networks

Youssouf Drif (IRT Saint Exupéry / Institut de Recherche en Informatique de Toulouse, France); Emmanuel Lavinal (University of Toulouse & IRIT, France); Emmanuel Chaput (Irit-Enseeiht, France); Pascal Berthou (CNRS/LAAS - Université de Toulouse, France); Boris Tiomela Jou (Airbus Defence and Space, France); Olivier Gremillet and Fabrice Arnal (IRT Saint Exupéry, France)

Delay-Aware DNN Inference Throughput Maximization in Edge Computing via Jointly Exploring Partitioning and Parallelism

Jing Li, Weifa Liang and Yuchen Li (The Australian National University, Australia); Zichuan Xu (Dalian University of Technology, China); Xiaohua Jia (City University of Hong Kong, Hong Kong)

Tuesday, October 5 17:30 - 18:30 (UTC)

LB_2: Lunch Break

Room: Wonder

Tuesday, October 5 18:30 - 20:00 (UTC)

R4: Regular Papers 4

IoT

Room: Zoom 1

Inferring Connected IoT Devices from IPFIX Records in Residential ISP Networks  

Arman Pashamokhtari (University of New South Wales, Australia); Norihiro Okui (KDDI Research, Japan); Yutaka Miyake (KDDI Research, Inc., Japan); Masataka Nakahara (KDDI Research, Japan); Hassan Habibi Gharakheili (University of New South Wales, Sydney, Australia)

Anomaly Detection for Discovering Performance Degradation in Cellular IoT Services  

Dimitar Minovski (Luleå University of Technology, Sweden); Christer Åhlund (Lulea University of Technology, Sweden); Karan Mitra (Luleå University of Technology, Sweden); Irina C Cotanis (Ascom Network Testing, USA)

X-Sync: Cross-Technology Clock Synchronization Among Off-The-Shelf Wireless IoT Devices  

Rainer Hofmann, David Grubmair, Carlo Alberto Boano and Kay Römer (Graz University of Technology, Austria)

An Efficient Metric for Physical-Layer Jammer Detection in Internet of Things Networks  

Mostafa Abdollahi (Ilam University, Iran); Kousar Malekinasab (Iran University of Science and Technology, Iran); Wanqing Tu (Durham University, United Kingdom (Great Britain)); Mozafar Bag-Mohammadi (Ilam University, Iran)

Opportunistic Routing and Synchronous Transmissions Meet TSCH  

Oliver Harms (Kiel University, Germany & Chalmers University of Technology, Sweden); Olaf Landsiedel (Kiel University, Germany & Chalmers University of Technology, Sweden)

Tuesday, October 5 20:00 - 20:30 (UTC)

SB_2: Social Break

Room: Wonder

Tuesday, October 5 20:30 - 22:30 (UTC)

R5: Regular Papers 5

Next generation networks

Room: Zoom 1

A Distributed Delivery Architecture for User Generated Content Live Streaming over HTTP

Farzad Tashtarian (Institute of Information Technology, Alpen-Adria Universität Klagenfurt, Austria); Abdelhak Bentaleb (National University of Singapore, Singapore); Reza Farahani (University of Klagenfurt, Austria); Minh Nguyen (Institute of Information Technology, Alpen-Adria Universität Klagenfurt Austria, Austria); Christian Timmerer (Alpen-Adria-Universität Klagenfurt, Austria); Hermann Hellwagner (Klagenfurt University, Austria); Roger Zimmermann (National University of Singapore, Singapore)

WhisperChord: Scalable and Secure Node Discovery for Overlay Networks

Andriy Panchenko (Brandenburg University of Technology (BTU), Germany); Asya Mitseva (Brandenburg University of Technology, Germany); Sara Knabe (RWTH Aachen University, Germany)

Outsourcing Secure MPC to Untrusted Cloud Environments with Correctness Verification

Oscar Bautista and Kemal Akkaya (Florida International University, USA); Soamar Homsy (Air Force Research Laboratory - Information Directorate (AFRL/RI), USA)

Anchor-Oriented Time and Phase-Based Concurrent Self-Localization Using UWB Radios

Nour Smaoui, Milad Heydariaan and Omprakash Gnawali (University of Houston, USA)

Progressive Mesh-Based HTTP Adaptive Augmented Reality Streaming System

Hyunmin Noh (POSTECH, Korea (South)); Gi Seok Park (Dongguk University, Korea (South)); Hwangjun Song (POSTECH (Pohang University of Science and Technology), Korea (South))

R6: Regular Papers 6

Performance evaluation

Room: Zoom 2

Understanding MPTCP in Multi-WAN Routers: Measurements and System Design  

Kariem Fahmi and Douglas Leith (Trinity College Dublin, Ireland); Stepan Kucera (Nokia, Germany); Holger Claussen (Tyndall National Institute, Ireland)

Impact of ACK Scaling Policies on QUIC Performance  

Ekaterina Volodina and Erwin P Rathgeb (University of Duisburg-Essen, Germany)

To Forward or Not to Forward: Optimal Message Scheduling in Mobile Opportunistic Networks  

Gourish Goudar (Bits Pilani Hyderabad Campus, India); Suvadip Batabyal (BITS Pilani, Hyderabad Campus, India); Ozgur Ercetin (Sabanci University, Turkey)

Low-Variance Latency Through Forward Error Correction on Wide-Area Networks  

Nooshin Eghbal and Paul Lu (University of Alberta, Canada)

A Formal Method for Evaluating the Performance of TSN Traffic Shapers Using UPPAAL  

Wang Guo, Yanhong Huang and Jianqi Shi (East China Normal University, China); Hou Zhe (Griffith University, Australia); Yang Yang (East China Normal University, China)

Provisioning Differentiated QoS for NVMe over Fabrics  

Joyanta Biswas, Jit Gupta and Krishna Kant (Temple University, USA); Amitangshu Pal (Indian Institute of Technology Kanpur, India); Dave Minturn (Intel Corp, USA)

Wednesday, October 6

Wednesday, October 6 15:00 - 16:00 (UTC)

Key_3: Keynote 3: Dr. Matti Latva-aho

6G - The Road Ahead

Dr. Matti Latva-aho

Room: Zoom 1

Chair: Karl Andersson (Luleå University of Technology, Sweden)

Wednesday, October 6 16:00 - 17:30 (UTC)

Symp: Symposium

Room: Zoom 1

Chair: Florian Tschorsch (Technische Universität Berlin, Germany)

Protecting Software-Defined Enterprise Networks from Packet Injection Attacks

Md Tanvir Ishtaique ul Huque (Queensland University of Technology, Brisbane, Australia); Frank den Hartog (University of New South Wales & DoVes Research, Australia)

SPCAuth: Scalable and Privacy-Preserving Continuous Authentication for Web Applications

David Monschein and Oliver P. Waldhorst (Karlsruhe University of Applied Sciences, Germany)

Intelligent Cooperative Health Emergency Response System in Autonomous Vehicles

Haya Elayan (xAnalytics Inc., Canada); Moayad Aloqaily (xAnalytics Inc., Ottawa, Canada); Haythem Bany Salameh (Yarmouk University, Jordan); Mohsen Guizani (Qatar University, Qatar)

Hierarchical Multi-Agent Deep Reinforcement Learning for SFC Placement on Multiple Domains

Nassima Toumi (EURECOM, France); Miloud Bagaa (CSC, Finland); Adlen Ksentini (Eurecom, France)

Suitability of Graph Representation for BGP Anomaly Detection

Kevin Hoarau and Pierre-Ugo Tournoux (Université de la Réunion, Reunion); Tahiry Razafindralambo (University of la Reunion, France)

Wednesday, October 6 17:30 - 18:30 (UTC)

LB_3: Lunch Break

Room: Wonder

Wednesday, October 6 18:30 - 20:00 (UTC)

N2W: N2Women panel

Self-confidence at Work for Women: Learn to Sit at the Table

Room: Zoom 1

Wednesday, October 6 20:00 - 20:30 (UTC)

SB_3: Invitation to LCN 2022

Room: Zoom 1

Wednesday, October 6 20:30 - 22:30 (UTC)

Sh_1 (Short papers): Short papers 1

IoT & Ad Hoc networks

Room: Zoom 1

On Quantifying the Complexity of IoT Traffic  

[Lisa Liu](#) (University of New South Wales, Australia); Daryl Essam (University of New South Wales at the Australian Defence Force Academy UNSW@ADFA, Australia); Timothy Lynar (University of New South Wales at the Australian Defence Force Academy, Australia)

Deep Reinforcement Learning for Persistent Cruise Control in UAV-Aided Data Collection  

Harrison Kurunathan (CISTER, Portugal); Kai Li (CISTER Research Centre, Portugal); Wei Ni (CSIRO, Australia); Eduardo Tovar (ISEP-IPP, Portugal); Falko Dressler (TU Berlin, Germany)

Unifying LoRaWAN Networks by Enabling the Roaming Capability  

Mohamed Hammache (University of Toulouse, France); Rahim Kacimi (IRIT/UPS, University of Toulouse, France); André-Luc Beylot (University of Toulouse, France)

Recovering Colliding LoRa Frames from Uncertainties Using LoRa Coding  

Weixuan Xiao (University Clermont Auvergne, France); Nancy El Rachkidy (Universite Clermont Auvergne, France); Alexandre Guitton (Clermont University, France)

Near-Optimal Opportunistic Spectrum Access in Cognitive Radio Networks in the 5G and IoT Era  

Omer M Gul (Middle East Technical University, Turkey)

Enabling Robust Wireless Communication for BMS on Electric Vehicles  

Fabian Antonio Rincon Vija (IMT Atlantique & Renault Group, France); Samuel Cregut (Renault Group, France); Georgios Z. Papadopoulos (IMT Atlantique, France); Nicolas Montavont (Institut Mines Telecom / IMT Atlantique, France)

Group Communication with OSCORE: RESTful Multiparty Access to a Data-Centric Web of Things  

Cenk Gündogan (Hamburg University of Applied Sciences, Germany); Christian Amsüss (Austria); Thomas C. Schmidt (Hamburg University of Applied Sciences, Germany); Matthias Wählisch (Freie Universität Berlin, Germany)

Python-Based TinyIPFIX in Wireless Sensor Networks  

Eryk Schiller and Ramon Huber (University of Zurich, Switzerland); Burkhard Stiller (University of Zürich, Switzerland)

Sh_2 (Short papers): Short papers 2

Network and Traffic management

Room: Zoom 2

Understanding the Achieved Rate Multiplication Effect in FlowQueue-Based AQM Bottleneck  

Jonathan Kua (Deakin University, Australia)

A Multidimensional Trust Model for Vehicular Ad-Hoc Networks  

Maryam Najafi (University of Technology of Troyes, France); Lyes Khoukhi (ENSICAEN, Normandie University, GREYC CNRS Lab., France); Marc Lemerancier (University of Technology of Troyes, France)

KDST: K-Anonymous Node Discovery Using Separation of Trust  

[Ali Kabeel](#) and Amr Elmougy (German University in Cairo, Egypt)

Network Traffic Classification Method Supporting Unknown Protocol Detection  

[Hongyu Liu](#) and Bo Lang (State Key Lab of Software Development Environment, Beihang University, China)

A Machine Learning Approach to Peer Connectivity Estimation for Reliable Blockchain Networking  

Jinoh Kim and Makiya Nakashima (Texas A&M University-Commerce, USA); Wenjun Fan (Xi'an Jiaotong-Liverpool University, China); Simeon Wuthier (University of Colorado Colorado Springs, USA); Xiaobo Zhou (University of Colorado, Colorado Springs, USA); Ikkyun Kim (ETRI, Korea (South)); Sang-Yoon Chang (University of Colorado Colorado Springs, USA)

Telemetron: Measuring Network Capacity Between Off-Path Remote Hosts  

Devashish Gosain (Max Planck Institute for Informatics); Aishwarya Jaiswal (IIITD, India); [Hrishikesh B Acharya](#) (Rochester Institute of Technology, USA); Sambuddho Chakravarty (IIIT Delhi, India)

Towards Generalizable Network Anomaly Detection Models  

[Md Arifuzzaman](#), Shafkat Islam and Engin Arslan (University of Nevada, Reno, USA)

Graph Based Visualisation Techniques for Analysis of Blockchain Transactions  

Jeyakumar Samantha Tharani (Griffith University & University of Jaffna, Sri Lanka); Eugene Yougarajah Andrew Charles (University of Jaffna, Sri Lanka); Hou Zhe (Griffith University, Australia); Marimuthu Palaniswami (The University of Melbourne, Australia); Vallipuram Muthukkumarasamy (Griffith University, Australia)

ICN PATTA: ICN Privacy Attack Through Traffic Analysis  

Enkeleda Bardhi (Sapienza University of Rome, Italy); Mauro Conti (University of Padua, Italy); Riccardo Lazzeretti (Sapienza University of Rome, Italy); Eleonora Losiouk (University of Padova, Italy)

Thursday, October 7

Thursday, October 7 14:30 - 16:00 (UTC)

Demo: Demonstrations

Room: [Zoom for Demos](#)

Chair: Kanchana Thilakarathna (The University of Sydney, Australia)

Science Federation Emulation Testbed: Demonstration of VFSIE Functionalities

[Anees Al-Najjar](#), Nageswara Rao, Neena Imam, Seth Hitefield and Thomas Naughton (Oak Ridge National Laboratory, USA)

Privacy-Preserving Social Distancing Bracelet

Asaad AlGhamdi (King Fahd University of Petroleum and Minerals, Saudi Arabia); Louai Al-Awami (King Fahd University of Petroleum and Minerals (KFUPM), Saudi Arabia)

Demo of Slips, a Free-Software IPS with Behavioral Machine Learning Detection

Kamila Babayeva (Czech Technical University in Prague, Czech Republic); Sebastian Garcia (Czech Technical University, Czech Republic); Alya Gomaa and Ondrej Lukas (Czech Technical University in Prague, Czech Republic)

Demo: Outsourcing Secure MPC to Untrusted Cloud Environments with Correctness Verification

Oscar Bautista (Florida International University, USA)

Demonstration of Orchestration of 5G Core Network Functions with a Satellite Emulator

Ayoub Bergaoui (IRT Saint Exupéry, France); Youssouf Drif (IRT Saint Exupéry / Institut de Recherche en Informatique de Toulouse, France); Tanissia Djemai (IRT Saint Exupéry, France); Olivier Gremillet and Ahmad Al Sheikh (IRT Saint Exupéry, France); Pascal Berthou (CNRS/LAAS - Université de Toulouse, France)

On Combining Reinforcement Learning and Monte Carlo for Dynamic Virtual Network Embedding

[Ghina Dandachi](#) (Inria, France); Yassine Hadjadj-Aoul (University of Rennes 1, France); Abdelkader Outtagarts (Nokia Bell Labs France, France)

A Demo of Workload Offloading in Mobile Edge Computing Using the Reliable Server Pooling Framework

[Thomas Dreibholz](#) (Simula Metropolitan Centre for Digital Engineering, Norway); Somnath Mazumdar (Copenhagen Business School, Denmark)

End-To-End Network Slicing Testbed with the COMETS Platform

Youssef Drif (IRT Saint Exupéry / Institut de Recherche en Informatique de Toulouse, France); Emmanuel Lavinal (University of Toulouse & IRIT, France); Emmanuel Chaput (Irit-Enseeiht, France); Pascal Berthou (CNRS/LAAS - Université de Toulouse, France); Boris Tiomela Jou (Airbus Defence and Space, France); Olivier Gremillet and Fabrice Arnal (IRT Saint Exupéry, France)

IDN-NetConfig: A Flexible Extension of the IDN-Hello Protocol (ILDA Digital Network) to Control Application Specific Parameters

Matthias Frank (University of Bonn, Germany)

Analysis and Classification of Cyberattack Traffic Using the SecGrid Platform  

Jan von der Assen, Muriel F. Franco and Bruno Rodrigues (University of Zurich, Switzerland); Burkhard Stiller (University of Zürich, Switzerland)

When a BRAT Fools Your Bridge: A Cyber Security Test Environment for Integrated Bridge Systems 

Merlin von Rechenberg (Fraunhofer FKIE, Germany); Mari Schmidt (Fraunhofer FKIE & University of Bonn, Germany); Christian Hemminghaus, Jan Bauer and Elmar Padilla (Fraunhofer FKIE, Germany)

Thursday, October 7 16:00 - 16:30 (UTC)

SB_4: Social Break

Room: Wonder

Thursday, October 7 16:30 - 18:00 (UTC)

Doc_1: Doctoral Track 1

Network management & optimization

Room: Zoom 1

Low-Cost Search in Tree-Structured P2P Overlays: The Null-Balance Benefit  

Peter Detzner (Fraunhofer Institute for Material Flow and Logistics, Germany); Jana Kristin Gödeke (Fraunhofer IML & Technical University of Dortmund, Germany); Steffen Bondorf (Ruhr University Bochum, Germany)

Upper Bounds on Path Exposure in EH-WSNs with Variable Transmission Ranges  

Abdulsalam Basabaa and Ehab S. Elmallah (University of Alberta, Canada)

CLEDGE: A Hybrid Cloud-Edge Computing Framework over Information Centric Networking  


Md Washik Al Azad (University of Nebraska at Omaha, USA); Susmit Shannigrahi (Tennessee Technological University, USA); Nicholas Stergiou (University of Nebraska Medical Center, USA); Francisco Ortega (Colorado State University, USA); Spyridon Mastorakis (University of Nebraska, Omaha, USA)

Improved Monte Carlo Tree Search for Virtual Network Embedding  

Maxime Elkael (Telecom Sudparis, France); Hind Castel-Taleb (Samovar UMR 5157, Telecom SudParis, Université Paris Saclay, France); Badii Jouaber (SAMOVAR & Telecom SudParis, Institut Polytechnique de Paris, France); Andrea Araldo (Télécom SudParis, France); Massinissa Ait aba (DAVIDSON Consulting, France)

Breach Path Detection Reliability in Energy Harvesting Wireless Sensor Networks  

Salwa Abougamila (University of Alberta, Canada); Mohammed Elmorsy (MacEwan University, Canada); Ehab S. Elmallah (University of Alberta, Canada)

Optimal Placement of Recurrent Service Chains on Distributed Edge-Cloud Infrastructures  

Ayeh Mahjoubi, Javid Taheri and Karl-Johan Grinnemo (Karlstad University, Sweden); Shuiguang Deng (Zhejiang University, Taiwan)

CURE: Enabling RF Energy Harvesting Using Cell-Free Massive MIMO UAVs Assisted by RIS  

Alvi Ataur Khalil (Florida International University, USA); Mohamed Y. Selim (Iowa State University, USA); Mohammad Ashiqur Rahman (Florida International University, USA)

Doc_2: Doctoral Track 2

IoT, Mobile & Ad hoc networks

Room: Zoom 2

Towards Dense and Scalable Soil Sensing Through Low-Cost WiFi Sensing Networks  

Steven M Hernandez, Deniz Erdag and Eyuphan Bulut (Virginia Commonwealth University, USA)

QX-MAC: Improving QoS and Energy Performance of IoT-Based WSNs Using Q-Learning  

Farhana Afroz (University of Technology Sydney, Australia); Robin Michael Braun (University of Technology, Sydney, Australia)

DEMONS: Extended Manufacturer Usage Description to Restrain Malicious Smartphone Apps  

Ina B. Fink, Martin Serror and Klaus Wehrle (RWTH Aachen University, Germany)

Characterizing Human Mobility Patterns During COVID-19 Using Cellular Network Data  

Necati A Ayan (Binghamton University, USA); Nilson Damasceno (Institute of Computing, Fluminense Federal University, Brazil); Sushil Chaskar (Binghamton University, USA); Peron Sousa (Fluminense Federal University, Brazil); Arti Ramesh and Anand Seetharam (SUNY Binghamton, USA); Antonio A Rocha (Fluminense Federal University, Brazil)

On the Analysis of Adaptive-Rate Applications in Data-Centric Wireless Ad-Hoc Networks  

[Md Ashiqur Rahman](#) (The University of Arizona, USA); [Beichuan Zhang](#) (University of Arizona, USA)

Quality Preserving Voice Stream Multicast over Mobile Low Power Wireless Networks  

Shneka Muthu Kumara Swamy and Qi Han (Colorado School of Mines, USA)

Mobility-Aware COVID-19 Case Prediction Using Cellular Network Logs  

Necati A Ayan and Sushil Chaskar (Binghamton University, USA); Anand Seetharam and Arti Ramesh (SUNY Binghamton, USA); Antonio A Rocha (Fluminense Federal University, Brazil)

Enhancing Adaptive Frequency Hopping for Bluetooth Low Energy  

Jannis Mast, Thomas Hänel and Nils Aschenbruck (Osnabrück University, Germany)

Thursday, October 7 18:00 - 19:00 (UTC)

LB_4: Lunch Break

Room: Wonder

Thursday, October 7 19:00 - 20:30 (UTC)

Sh_3 (Short papers): Short papers 3

Network optimization

Room: Zoom 1

Flow-Aware Low-Latency Multipath Tunnelling  

[Richard Sailer](#) (Universität Augsburg, Germany); Jörg Hähner (University of Augsburg, Germany)

Virtual Framework for Development and Testing of Federation Software Stack 

Anees Al-Najjar, Nageswara Rao, Neena Imam, Thomas Naughton, Seth Hitefield, Lawrence Sorrillo and James A. Kohl (Oak Ridge National Laboratory, USA); Wael Elwasif (Oak Ridge National Lab, USA); Jean Bilheux (Oak Ridge National Laboratory, USA); Hassina Bilheux (Oak Ridge National Laboratory & Spallation Neutron Source, USA); Swen Boehm and Jason Kincl (Oak Ridge National Laboratory, USA)

MPRdeep: Multi-Objective Joint Optimal Node Positioning and Resource Allocation for FANETs with Deep Reinforcement Learning  

[Qi Wang](#) (Institute of Computing Technology, Chinese Academy of Sciences, China); [Jianmin Liu](#) (Institute of Computing Technology Chinese Academy of Sciences, China); Cunzhuang Liu, Jianhui Huang, ChenTao He and Yongjun Xu (Institute of Computing Technology, Chinese Academy of Sciences, China)

Accelerating MPI Communication Using Floating-Point Compression on Lossy Interconnection Networks  

Yao Hu and Michihiro Koibuchi (National Institute of Informatics, Japan)

A Comprehensive Evaluation of Different Approaches to Tunnelling over Multiple Paths  

Richard Sailer (Universität Augsburg, Germany); Jörg Hähner (University of Augsburg, Germany)

Distributed Task Migration Optimization in MEC by Deep Reinforcement Learning Strategy  

Yuya Cui (TJUT, China); Degan Zhang (Tianjin University of Technology, China); Zhang Jie (Beijing Jiaotong University, China); Ting Zhang, Li Xiang Cao and Lu Chen (Tianjin University of Technology, China)

A Minimal Delay Violation Downlink LTE Scheduler  

Jeremy Van den Eynde (University of Antwerp - imec, Belgium); Chris Blondia (imec - University of Antwerp, Belgium)

Designing the Interplay of Energy Plane and Communication Plane in the Energy Packet Grid  

Klemens Schneider, Friedrich Wiegel, Dominik Schulz and Veit Hagenmeyer (Karlsruhe Institute of Technology, Germany); Marc Hiller and Roland Bless (Karlsruhe Institute of Technology (KIT), Germany); Martina Zitterbart (KIT, Germany)

Sh_4 (Short papers): Short papers 4

Mobile and adaptive networks

Room: [Zoom 2](#)

LaFlector: A Privacy-Preserving LiDAR-Based Approach for Accurate Indoor Tracking  

Bruno Rodrigues (University of Zurich, Switzerland); Lukas Müller (University of Zurich (Switzerland), Switzerland); Eder J. Scheid (University of Zürich, Switzerland); Muriel F. Franco and Christian Killer (University of Zurich, Switzerland); Burkhard Stiller (University of Zürich, Switzerland)

Delta-State-Based Synchronization of CRDTs in Opportunistic Networks  

Frédéric Guidec (IRISA & Université Bretagne Sud (UBS), France); Yves Mahéo (IRISA, Université Bretagne Sud, France); Camille Noûs (Laboratoire Cogitamus, France)

Maintenance of Structural Hole Spanners in Dynamic Networks  

Diksha Goel, Hong Shen and Mingyu Guo (University of Adelaide, Australia)

An Incentive Approach in Mobile Crowdsensing for Perceptual User  

Lu Chen and Degan Zhang (Tianjin University of Technology, China); Zhang Jie (Beijing Jiaotong University, China); Ting Zhang, Jinyu Du and Hongrui Fan (Tianjin University of Technology, China)

A Vehicle Message Scheduling Scheme for Vehicle Trust Management  

Qinwen Hu and Wanqing Tu (The University of Auckland, New Zealand)

A Smartphone-Targeted Opportunistic Computing Environment for Decentralized Web Applications  

Lionel Touseau (IRISA & Université Bretagne Sud, France); Yves Mahéo (IRISA, Université Bretagne Sud, France); Camille Noûs (Laboratoire Cogitamus, France)

Prediction of Indoor Wireless Coverage from 3D Floor Plans Using Deep Convolutional Neural Networks  

Yaqoob Ansari (Carnegie Mellon University - Qatar, Qatar); Nouha Tiyal and Eduardo Feo-Flushing (Carnegie Mellon University in Qatar, Qatar); Saquib Razak (Carnegie Mellon University, USA)

A Two-Stage Algorithm for the Virtual Network Embedding Problem  

Massinissa Ait aba (DAVIDSON Consulting); Maxime Elkael (Telecom Sudparis, France); Badii Jouaber (SAMOVAR & Telecom SudParis, Institut Polytechnique de Paris, France); Hind Castel-Taleb (Samovar UMR 5157, Telecom SudParis, Université Paris Saclay, France); Andrea Araldo (Télécom SudParis, France); David Olivier (DAVIDSON Consulting, France)

Alternative Authentication with Smart Contracts for Online Games  

Michał Boroń (Poznań University of Technology, Poland); Anna Kobusinska (Poznan University of Technology, Poland)

Thursday, October 7 20:30 - 21:00 (UTC)

Awards: Best Paper and Demo awards

Room: Zoom 1

Chair: Karl Andersson (Luleå University of Technology, Sweden)

Thursday, October 7 21:00 - 22:00 (UTC)

Doc_3: Doctoral Track 3

Adaptive and cooperative networks

Room: Zoom 1

Hop-By-Hop: Advancing Cooperative Congestion Control for Cyber-Physical Systems  

Markus Jung (Karlsruhe Institute of Technology, Germany); Martina Zitterbart (KIT, Germany)

CSDN: CDN-Aware QoE Optimization in SDN-Assisted HTTP Adaptive Video Streaming  

Reza Farahani (University of Klagenfurt, Austria); Farzad Tashtarian (Institute of Information Technology, Alpen-Adria Universität Klagenfurt, Austria); Hadi Amirpour (Institute of Information Technology (ITEC), Alpen-Adria-Universität Klagenfurt, Austria); Christian Timmerer (Alpen-Adria-Universität Klagenfurt, Austria); Mohammad Ghanbari (University of Essex, United Kingdom (Great Britain)); Hermann Hellwagner (Klagenfurt University, Austria)

Application Agnostic Container Migration and Failover  

Martin Terneborg and Johan Karlsson Rönnberg (Xarepo AB, Sweden); Olov Schelén (Luleå University of Technology & Xarepo, Sweden)

Robust Authentication and Data Flow Integrity for P2P SCADA Infrastructures  

Abel O Gomez Rivera and Evan M White (University of Texas at El Paso, USA); Deepak K Tosh (University of Texas, El Paso, USA)

Revenue Maximization Leveraging Elastic Service Provisioning in Flexible Optical Networks  

Cao Chen (Shanghai Jiao Tong University, France & University of Avignon, France); Fen Zhou (IMT Lille Douai, Institut Mines-Télécom, University of Lille, France); Shilin Xiao (Shanghai Jiao Tong University, China)

A Networked Social Virtual Reality Learning Environment Platform for Special Education  

Roland Oruche, Vaibhav Akashe, Samaikya Valluripally, Aniket Gulhane, Prasad Calyam, Janine Stichter and Zhihai He (University of Missouri-Columbia, USA)

EADAS: Edge Assisted Adaptation Scheme for HTTP Adaptive Streaming  

Jesús Aguilar-Armijo (University of Klagenfurt, Austria); Christian Timmerer (Alpen-Adria-Universität Klagenfurt, Austria); Hermann Hellwagner (Klagenfurt University, Austria)

Doc_4: Doctoral Track - Promising ideas

Room: Zoom 2

DRO: A Data-Scarce Mechanism to Revolutionize the Performance of DL-Based Security Systems  

Mohit Sewak (Microsoft & BITS Pilani, Goa, India); Sanjay K. Sahay and Hemant Rathore (BITS Pilani, India)

Toward a Lightweight Machine Learning Based Solution Against Cyber-Intrusions for IoT 

Mawloud Omar (ESIEE Paris, LIGM, University of Gustave Eiffel, France); Laurent George (ESIEE Paris, France)

Predictive Analytics Integrated Multi-Level Optimization of Offshore Connectivity in Ocean Network  

Simi Surendran (Amrita Viswavidyapeetham, India); Maneesha Vinodini Ramesh (Amrita Vishwa Vidyapeetham, Amrita University, India); Alberto Montresor (University of Trento, Italy)

Failure Modes and Effects Analysis (FMEA) of Honeypot-Based Cybersecurity Experiment for IoT  

[Junaid Haseeb](#) (Victoria University of Wellington, New Zealand); Masood Mansoori (Victoria University of Wellington & Wellington Institute of Technology, New Zealand); Ian Welch (Victoria University of Wellington, New Zealand)

Public Wireless Packets Anonymously Hurt You  

[Abhishek Kumar Mishra](#) (Inria Saclay, France); Aline Carneiro Viana (INRIA, France); Nadjib Achir (University Sorbonne Paris Nord, France); Catuscia Palamidessi (Inria, France)

Securing Software-Defined Vehicular Network Architecture Against DDoS Attack 

Houda Amari (Sfax University, Tunisia); Wassef Louati (High Institute of Computer Science and Multimedia of Mahdia, Tunisia); Lyes Khoukhi (ENSICAEN, Normandie University, GREYC CNRS Lab., France); Lamia Hadrich Belguith (Sfax & ANLP-Research group, MIRACL Lab. FSEGS University of Sfax, Tunisia)

Thursday, October 7 22:00 - 22:30 (UTC)

Wrap: Wrap-up remarks!

Room: Zoom 1

Chair: Karl Andersson (Luleå University of Technology, Sweden)