

AGENDA

It is our great pleasure to welcome you to the 21st edition of DRCN the “International Conference on the Design of Reliable Communication Networks” which will take place on May 12-15 2025, in Ningbo Pan Pacific Hotel, China.

Since its creation in 1998, DRCN has become over the years a well-established forum for scientists from both industry and academy who have interest in reliability and availability of telecommunication networks, or other resiliencerelated topics. The aim of the conference is to bring together people from various disciplines, ranging from engineering of survivable equipment and network technologies to network management and monitoring, through methods and models for survivable and robust network design. The conference program will put together many different activities, including keynotes from outstanding speakers, technical sessions with regular and invited papers, a co-located workshop, and tutorials on highly interesting topics within the conference field. The DRCN 2025 conference is technically Co-Sponsored by the IEEE Communications Society.



DRCN 2025



Monday, May 12 2025  Yingbin Building 3F Pacific Room 4

9:30AM - 12:00PM Registration

12:00PM – 1:00PM LUNCH BREAK

1:00PM -1:20PM Opening remarks

1:20PM-2:20PM Keynote 1

Reliability Challenges and Opportunities in Next-Generation Optical Networks

Joao Pedro

2:20PM-3:20PM Keynote 2

Large-scale and Highly Dynamic Laser-based Satellite Communication Networks

Yongli Zhao

3:20PM-3:40PM COFFEE BREAK

3:40PM-5:00PM Workshop on Cybersecurity and Resiliency of IoT, 5G, and Beyond

Cloud Server Backup Resource Allocation Models Based on Probabilistic Protection

Enhui Cai, Ryuta Shiraki, Eiji Oki

Fairness-Aware Joint Optimization of 3D Trajectory and Task Offloading in Multi-UAV Edge Computing Systems

Hu Li, Long Qu, Wenfei Chen, Dongdong Shao

Reliable SFC Orchestration via VNF Parallelization

Yuhao Zhang, Xueling Wu, Long Qu, Dechao Sun

6:00PM - 8:00PM Welcome Reception

Tuesday, May 13 2025  Yingbin Building 3F Pacific Room 4

8:30AM – 9:30AM Keynote 3

Data Security: Challenges and Progresses

Kui Ren

9:30AM - 9:50AM COFFEE BREAK

9:50AM - 12:00PM Security and Robustness

Heterogeneous Federated Reinforcement Learning-Empowered Dual Jamming Detection in Terrestrial and Non-Terrestrial ISAC Networks

Aida Meftah, Hamda Bouzabia, Georges Kaddoum, Chamseddine Talhi, Chadi Assi

MigDiffusion: Diffusion-Based Preemptive Migration for Fault-Tolerant Computing in 6G Dynamic Edge Networks

Xinxu Liu, Peng Yu, Honglin Fang, ShaoYong Guo, Li Wenjing

Exploring Quantum Key Distribution Routing Algorithms

João Gonçalo Machado Barreirinhas, Rita Girao-Silva, Teresa Gomes, Matthias Gunkel

12:00PM – 1:30PM LUNCH BREAK

1:30PM - 2:30PM Keynote 4

Data-driven network management

Kohei Shiimoto

2:30PM - 2:50PM COFFEE BREAK

2:50PM - 5:00PM Aerial and Edge Networks

Intelligent Handover Decision for UAV Communication Systems in Indoor - Outdoor Hybrid Scenarios

Yuxin Fang, Wenjun Wu, Lin Cheng, Yang Sun, Zhiqiang Dan

Service Availability for MEC Location in Radio Access Network

David Tipper, Prashant Krishnamurthy, Amy Babay, Victor Yu Liu

Semantic and Channel-Aware Processing and Transmission for Aerial Imagery

Lingzhi Li, Yuyi Mao, Juan Liu, Lingfu Xie, Long Qu

A Resource-Aware Ant-Based Recruiting Strategy in 5G-assisted FANET Disaster Scenarios(invited)

Mauro Tropea, Alex Ramiro Masaquiza Caiza, Luis Miguel Samaniego Campoverde, Mattia Giovanni Spina and Floriano De Rango

Wednesday, May 14 2025  Yingbin Building 3F Pacific Room 4

8:00AM - 10:00AM Tutorial 1

AutoML for Adaptive Intrusion Detection in 6G and IoT Systems

Abdallah Shami

10:00AM - 10:20AM COFFEE BREAK

10:20AM - 12:00PM Network Resilience and Reliability

Risk-Aware Backup Path Allocation in O-RAN Based Integrated Terrestrial and Non-Terrestrial Networks

Aunas Manzoor, Mustafa Ozger, Cicek Cavdar

Research on Testing Systems and Methods for Remote Data Transmission Functionality in Medical Devices

Haiying Ren, Yu Zhang, Dan Wang, Man Li, Zigang Li

Constraint-Based Risk and Revenue Optimization for Network Disaster Recovery (invited)

Sara Taghavi Motlagh, Shahram Shah Heydari, Khalil El-Khatib

12:00PM – 1:30PM LUNCH BREAK

2:00PM – 5:30PM Social Event

Ningbo Museum

6:00PM-8:00PM Banquet

Thursday, May 15 2025  Yingbin Building 3F Pacific Room 4

8:00AM - 10:00AM Tutorial 2

AI for Semantic Communications

Shui Yu, Zhiyi Tian

10:00AM - 10:20AM COFFEE BREAK

10:20AM - 12:00AM Network Survivability and Reliability

On the Scaling of Reliable Interplanetary Networks with Deep Reinforcement Learning (invited)

Xiaojian Tian, Xiaoliang Chen, Xixuan Zhou and Zuqing Zhu

Reliability and QoS Assurance in RIS-assisted Indoor Networks

Cao Vien Phung, Max Franke, Ehsan Tohidi, June Heinemann, André C Drummond, Sławomir Stanczak, Admela Jukan

Comparative Analysis of Reinforcement Learning for Reliable Real-Time EV Routing and Charging (invited)

Majid Ghasemi, Dariush Ebrahimi, Fadi Alzhouri

Wrap-UP