IEEE ComSoc™
IEEE Communications Society

DRCN 2025

International Conference On The Design
Of Reliable Communication Networks

Ningbo China
May 12–15 2025

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NINGBO UNIVERSITY

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INVITATION FROM THE GENERAL CHAIR

Dear Colleagues and Friends,

On behalf of the 2025 DRCN Steering Committee, it is our great honor to invite you to the flagship event of the International Conference on Design of Reliable Communication Networks (DRCN), which will be held in Ningbo, China from Monday, May 12th to Thursday, May 15th.

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 resilience-related 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 21st International Conference on Design of Reliable Communication Networks, co-sponsored by the IEEE Communications Society Technology and Ningbo University.

So please join us in Ningbo in May 2025 for an unforgettable experience.

 DRCN 2025 General Co-Chairs：

Chadi Assi	Xiang Shen
Concordia University	Ningbo University

CHAIRS FOR TECHNICAL PROGRAM COMMITTEE

Dear Colleagues and Friends,

Welcome to Ningbo!

On behalf of the Technical Programme Committee, we are delighted to extend our warmest welcome to the International Conference on Design Reliable Communication Networks 2025. This event provides an exciting opportunity to network with colleagues, share insights, exchange ideas and learn from leading experts and innovators.

Thanks to the hard work of our organising committee, we have put together an engaging four-day programme that includes：

- 4 keynote speeches by distinguished guests from academia
- 2 tutorials that delve into cutting-edge technologies such as AI semantic communication and AutoML for Adaptive Intrusion Detection in 6G and IoT Systems, etc.
- Our workshop focusing on Cybersecurity and Resiliency of IoT, 5G, and Beyond (WCyRes).
- An exciting social programme with networking sessions including a welcome dinner and a tour of the Ningbo Museum

We hope this extensive program offers valuable learning and networking opportunities for everyone. We look forward to meeting you in Ningbo!
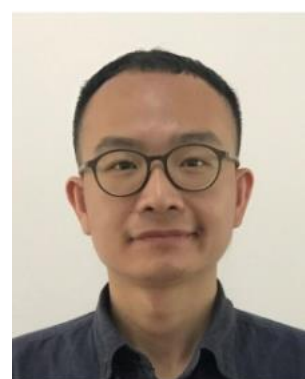
DRCN 2025 TPC Co-Chairs：

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University of Coimbra and
INESC Coimbra

Eiji Oki
Kyoto University

Long Qu
Ningbo University

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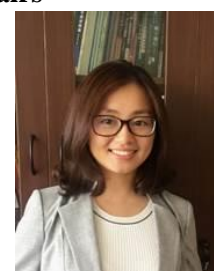**Publication chair**
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and Technology of China

Workshop /special session co-chairs
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Beijing University of Technology

Workshop /special session co-chairs
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Ningbo University

Local Arrangement
Zheng Zhou
Ningbo University

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GENERAL INFORMATION
CONFERENCE VENUE

The IEEE DRCN 2025 will be held at Pan Pacific Ningbo which is located in the core area of Ningbo's Eastern New City, adjacent to the Ningbo International Convention and Exhibition Center and the financial center. It is approximately 21 kilometers from Ningbo Lishe International Airport and about 10 kilometers from Ningbo Railway Station, offering easy access to various transportation hubs.

Address: No. 99 Min'an East Road, Ningbo High-tech Zone, Zhejiang Province, China, Postal Code: 315101

LOCATION MAP AROUND THE CONFERENCE VENUE

Address: No. 99 Min'an East Road, Ningbo High-tech Zone, Zhejiang Province, China, Postal Code: 315101

（+8620-86009099）

REGISTRATION HOURS

Admission to all sessions and hosted functions requires the attendance identification. Please wear your name badge at all times.

Registration time

    ☐ Monday, May 12 2025   9:30AM - 12:00PM

Registration Address

Pan Pacific Hotel Ningbo

No. 99 Min'an East Road, Ningbo High-tech Zone, Zhejiang Province

PROGRAM OVERVIEW
International Conference On The Design Of Reliable Communication
May 12-15 2025
Address：Yingbin Building 3F Pacific Room 4

Date	Time	Agenda
May .12	9:30 - 12:00	**Registration**
	12:00– 1:00	**LUNCH BREAK**
	1:00 -1:50	**Opening remarks**
	1:50-2:50	**Keynote 1:Reliability Challenges and Opportunities in Next-Generation Optical Networks（João Pedro）**
	2:50-3:10	**COFFEE BREAK**
	3:10- 5:00	**Workshop on Cybersecurity and Resiliency of IoT, 5G, and Beyond：** ◆**Cloud Server Backup Resource Allocation Models Based on Probabilistic Protection（Enhuai 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）**
	6:00 - 8:00	**Welcome Reception**

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Date	Time	Agenda
May .13	8:30 - 9:30	**Keynote 2： ML-Powered UAV Condition Monitoring: Optimizing Reliability, Communication, and Edge Intelligence（Abdallah Shami）**
	9:30– 9:50	**COFFEE BREAK**
	9:50 -12:00	**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（Xinxiu 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 ）**
	12:00 -1:30	**LUNCH BREAK**
	1:30-2:30	**Keynote 3 :Data-driven network management (Kohei Shiomoto)**

	2:30-3:30	**Keynote 4 :Forget More Towers: URLLC Needs Satellites and HAPs(Cicek Cavdar)**
	3:30-3:50	**COFFEE BREAK**
	3:50- 6:00	**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**）
	6:00-8:00	**Dinner**

International Conference On The Design Of Reliable Communication
May 12-15 2025

Date	Time	Agenda
May .14	8:00- 10:00	**Tutorial 1: AutoML for Adaptive Intrusion Detection in 6G and IoT Systems (Abdallah Shami)**
	10:00-10:20	**COFFEE BREAK**
	10:20-12:00	**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** ）
	12:00-1:30	**LUNCH BREAK**
	2:00-5:30	**Social Event：Ningbo Museum**
	6:00-8:00	**Banquet**

International Conference On The Design Of Reliable Communication
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Date	Time	Agenda
May .15	8:00- 10:00	**Tutorial 2: AI for Semantic Communications（Shui Yu, Zhiyi Tian）**
	10:00-10:20	**COFFEE BREAK**
	10:20-12:00	**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, Slawomir Stanczak, Admela Jukan**） ◆**Comparative Analysis of Reinforcement Learning for Reliable Real-Time EV Routing and Charging (invited)** （**Majid Ghasemi, Dariush Ebrahimi, Fadi Alzhouri**）
		END

KEYNOTE SPEECHES I

TITLE	**Reliability Challenges and Opportunities in Next-Generation Optical Networks**
TIME	1:50– 2:50, May 12
VENUE	Yingbin Building 3F Pacific Room 4
SPEAKER	João Pedro

ABSTRACT:

Optical networks have been an (often underestimated) enabler of our hyper-connected societies, as they fulfil the key role of reliably carrying massive amounts of data across medium to long distances. The relentless demand for traffic and the potential impact of massive AI workloads on inter data center traffic requirements, are setting the stage for even higher capacity needs. However, since we already ripped most of the spectral efficiency improvements of the "coherent revolution" that started back in 2010, this time around more capacity will mean more spectrum. Exploiting wideband transmission is an appealing approach to postpone costly roll out of new optical fibers, particularly for service providers that are fiber constrained. This talk will overview solutions to exploit more transmission bands, highlighting the associated technical challenges, with a specific focus on reliability, and discussing potential mitigation strategies. Moreover, it will also address recent developments on using machine learning techniques and real-time monitoring data for early failure detection and proactive restoration, which can play an important role in cost-effectively improving service availability in optical networks.

Short Bio:

João Pedro holds a M.Sc. and Ph.D. degrees in Electrical and Computer Engineering from Instituto Superior Técnico (IST), University of Lisbon, Portugal. He was a research engineer and a system architect at Nokia Siemens Networks and Coriant and he is currently a senior principal engineer at Infinera, being responsible for the design of capacity planning algorithms for next-generation optical networks and supporting performance and techno-economic investigations of future-looking network architectures. He holds 13 patent applications and has co-authored over 300 publications in international conferences and journals. He has also participated in several EU-funded projects and has been a lecturer of courses on network planning and transport networks. His current research interests include high-capacity and reliable optical networks, flexible metro-aggregation architectures, routing and spectrum assignment, multilayer optimization and machine learning applications. He is also a permanent staff member of Instituto de Telecomunicações, a senior member of the IEEE and a member of OPTICA.

KEYNOTE SPEECHES II

TITLE	**ML-Powered UAV Condition Monitoring: Optimizing Reliability, Communication, and Edge Intelligence**
TIME	8:30– 9:30, May 13
VENUE	Yingbin Building 3F Pacific Room 4
SPEAKER	Abdallah Shami

ABSTRACT:

Unmanned Aerial Vehicles (UAVs) are rapidly becoming integral to the infrastructure of emerging smart cities, enabling diverse applications ranging from surveillance and logistics to infrastructure inspection. However, the deployment of UAVs at scale hinges on their operational reliability and the efficiency of supporting communication and computation systems. This keynote explores recent advancements in machine learning-based UAV condition monitoring frameworks, emphasizing the need for end-to-end optimization across the sensing, processing, and communication architecture.

We delve into techniques for real-time rotor fault detection using vibration signal analysis, efficient feature extraction pipelines accelerated through low-level optimization and parallelism, and strategies for drastically reducing network resource utilization without sacrificing model accuracy. Furthermore, we present a novel deep learning approach to signal companding that reduces power consumption in sensor nodes by minimizing the Peak-to-Average Power Ratio (PAPR) of vibration waveforms—thus extending the viability of UAV monitoring in constrained environments.

By integrating principles from signal processing, embedded ML, and communication systems design, this talk outlines a path forward for building scalable, power-aware, and network-efficient UAV monitoring solutions that meet the reliability demands of smart urban ecosystems.

Bio:

Abdallah Shami (Fellow IEEE) is currently a Professor and Chair of the Department of Electrical and Computer Engineering, Western University, London, ON, Canada, where he is also the Director of the Optimized Computing and Communications Laboratory. Dr. Shami has chaired key symposia for the IEEE GLOBECOM, IEEE International Conference on Communications, and IEEE International Conference on Computing, Networking and Communications. He was the elected Chair for the IEEE Communications Society Technical Committee on Communications Software and the IEEE London Ontario Section Chair. He is currently an Associate Editor of the IEEE Transactions on Information Forensics and Security, IEEE Transactions on Network and Service Management, and IEEE Communications Surveys and Tutorials journals. Dr. Shami is the Chair of IEEE Region 7 Publications and Communications Committee. Dr. Shami is a Fellow of IEEE, a Fellow of the Canadian Academy of Engineering (CAE), and a Fellow of the Engineering Institute of Canada (EIC).

KEYNOTE SPEECHES III

TITLE	**Data-driven network management**
TIME	1:30– 2:30, May 13
VENUE	Yingbin Building 3F Pacific Room 4
SPEAKER	Kohei Shiomoto

ABSTRACT:

Data-driven network management has been an active research filed for more than past 10 years. Mathematical methods such as machine learning enables data-driven network management. In particular, deep learning has developed rapidly, and it is being applied not only to image, audio, and natural language processing, but also to various industrial fields, and ICT system operation management is no exception. In this talk, after first explaining the architecture and management of modern computer networks, we will cover the mathematical methods that support data-driven network management, including deep learning and other machine learning methods. We will then cover the research trends related to data-driven management, including network softwarization and network security.

Short Bio:

Kohei Shiomoto is a Professor, Tokyo City University, Tokyo Japan. Since joining NTT Laboratories in 1989, he has been engaged in research and development in the data communications industry on high-speed computer network architecture, traffic management, and network analysis to create innovative technologies for the Internet, mobile, and cloud computing. From 1996 to 1997, he was a visiting scholar at Washington University in St. Louis, MO, USA. In 2017, he joined Tokyo City University to engage in research and education on data science and computer networking. Current research interests include data mining for network management, human flow analysis, cloud computing and blockchain. He has published more than 70 academic papers, 130 refereed international conference papers, and 6 RFCs in IETF. He served as Guest Co-Editor for a series of special issues established in IEEE Transactions on Network and Service Management. He has served in various roles organizing IEEE ComSoc conferences including IEEE NOMS, IEEE IM, and IEEE NetSoft. He served as the lead Series editor for the Network Softwarization and Management Series in IEEE Communications Magazine, 2018-2021. He is a Fellow of the Institute of Electronics, Information and Communication Engineers (IEICE), a Senior Member of the IEEE, and a member of the ACM and the Information Processing Society of Japan (IPSJ).

KEYNOTE SPEECHES IV

TITLE	**Forget More Towers: URLLC Needs Satellites and HAPs**
TIME	2:30– 3:30, May 13
VENUE	Yingbin Building 3F Pacific Room 4
SPEAKER	Cicek Cavdar

ABSTRACT:

Today's terrestrial networks, despite their advancements, fall short when it comes to delivering truly ultra-reliable low-latency communication (URLLC) services—especially in mission-critical, remote, or disaster-prone environments. In this keynote, I will demonstrate the inherent vulnerabilities and limitations of purely ground-based networks in meeting the stringent demands of URLLC.

Then, I will introduce a transformative solution: an integrated architecture combining terrestrial infrastructure with Low Earth Orbit (LEO) satellites and High-Altitude Platforms (HAPs). By leveraging the unique strengths of each layer, we can unlock seamless, resilient, and low-latency connectivity—anywhere, anytime. This is not just an upgrade—it's a paradigm shift for 6G and beyond.

Short bio:

Cicek Cavdar is a Professor at KTH Royal Institute of Technology in Sweden, where she leads the "Intelligent Network Systems" research group; serves as vice-head of the Communication Systems Division and as the director of the newly established research center on satellite communications: SMART 6GSAT composed of 21 partners from Swedish satellite and telecommunication industry together with research institutes. She has played a pivotal role in numerous European projects, particularly in aerospace communications and sustainable network technologies. Since 2013, Cicek has led several EU projects focused on sustainability and green communications, including "5GrEEn," SooGREEN, and AI4Green. Notably, AI4Green received the Eureka Innovations Award and the Celtic Excellence Award in 2024. In aerospace communications, she has coordinated industry-university collaborative projects since 2016, such as "ICARO-EU" and "6G-SKY: 6G for Connected Sky." Currently she is leading RAI-6Green: Robust and AI Native 6G Green Communications Prohect. Her research interests include the integration of non-terrestrial and terrestrial networks, edge/cloud computing, ultra-reliable low latency wireless communications, sustainability, and AI-assisted green network management.

Tutorials I

TITLE	**AutoML for Adaptive Intrusion Detection in 6G and IoT Systems**
TIME	8:00 – 10:00, May 14
VENUE	Yingbin Building 3F Pacific Room 4
SPEAKER	Abdallah Shami

ABSTRACT:

This tutorial explores how Automated Machine Learning (AutoML) can enhance cybersecurity in next-generation 6G networks and Internet of Things (IoT) systems, with a focus on Intrusion Detection Systems (IDS). As 6G and IoT technologies evolve, they introduce increasingly complex and dynamic security challenges. This tutorial addresses these issues by showcasing how AutoML provides scalable, adaptive solutions.

It begins with an overview of cybersecurity in 6G and IoT environments, emphasizing the growing need for intelligent IDS to counter sophisticated cyber threats. Traditional machine learning models require significant manual effort and face limitations in addressing evolving threats and model drift. AutoML automates key processes—such as data preprocessing, feature selection, model optimization, and continual updating—enabling IDS that can adapt to evolving attack patterns and maintain effectiveness over time.

A case study using public cybersecurity datasets will be presented to illustrate the real-world application of AutoML in IDS development.

The tutorial is based on work published by the OC2 group and is available open-source through the group's GitHub repositories: https://github.com/Western-OC2-Lab/. The following publications form the foundation of the tutorial content and are available as open access or through the arXiv repository:

- Yang, S. Naser, A. Shami, S. Muhaidat, L. Ong, and M. Debbah, "Towards Zero Touch Networks: Cross-Layer Automated Security Solutions for 6G Wireless Networks," IEEE Transactions on Communications, doi: 10.1109/TCOMM.2025.3547764. [Invited Paper]
- M. Manias, A. Chouman, and A. Shami, "Model Drift in Dynamic Networks," IEEE Communications Magazine, vol. 61, no. 10, pp. 78–84, Oct. 2023, doi: 10.1109/MCOM.003.2200306.
- Yang and A. Shami, "Towards Autonomous Cybersecurity: An Intelligent AutoML Framework for Autonomous Intrusion Detection," International Workshop on Autonomous Cybersecurity (AutonomousCyber 2024), held in conjunction with the 31st ACM Conference on Computer and Communications Security (ACM CCS 2024). [Best Paper Award]
- Yang, M. E. Rajab, A. Shami, and S. Muhaidat, "Enabling AutoML for Zero-Touch Network Security: Use-Case Driven Analysis," IEEE Transactions on Network and Service Management, vol. 21, no. 3, pp. 3555–3582, June 2024, doi: 10.1109/TNSM.2024.3376631.
- Yang and A. Shami, "A Multi-Stage Automated Online Network Data Stream Analytics Framework for IIoT Systems," IEEE Transactions on Industrial Informatics, vol. 19, no. 2, pp. 2107–2116, Feb. 2023, doi: 10.1109/TII.2022.3212003.
- Yang and A. Shami, "IoT Data Analytics in Dynamic Environments: From an Automated Machine Learning Perspective," Engineering Applications of Artificial Intelligence, vol. 116, pp. 1–33, Nov. 2022.
- Yang and A. Shami, "IDS-ML: An Open-Source Code Repository for Intrusion Detection System Development Using Machine Learning," Software Impacts, vol. 14, Nov. 2022.

Tutorials II

TITLE	AI for Semantic Communications
TIME	8:00– 10:00, May 15
VENUE	Yingbin Building 3F Pacific Room 4
SPEAKER	Zhiyi Tian

ABSTRACT:

Artificial intelligence has become the powerful engine behind the dramatic progress of communications, such as, 6G and semantic communications. However, the deployment of AI in communication faces many fundamental challenges, especially in theory. In this tutorial, we focus on the potential of leveraging mathematical tools to guide the application of AI methods in the field of communications. Specifically, we introduce the basics of two related emerging fields, differential geometry in deep learning and semantic communication. We firstly present the current status of the two fields and explain why they are critical for future communications. Secondly, in order to understand differential geometry in deep learning, we introduce the necessary basic concepts of differential geometry, including topology, manifold, tensor, vector space, dual vector space, metric, geodesic, and so on. Thirdly, we highlight the related latest research on differential geometry in deep learning. Fourthly, we will analyze the current research status of semantic communications, and the application of differential geometry for the research area. Finally, we discuss the promising research directions in the fields.

Zhiyi Tian (Member, IEEE) is currently a postdoctoral researcher with the Faculty of Engineering and Information Technology, University of Technology Sydney, Australia.

Zhiyi has published more than 20 technical papers in top journals such as IEEE TDSC, TIFS, CSUR. His h-index is 10.

Zhiyi serves his research communities as reviewer for many journals, including IEEE Communications Surveys and Tutorials, IEEE TIFS, IEEE TKDD, IEEE Network Magazine and the IEEE Internet of Things Journal, among others.

His research interests include AI application in communications, 5G/6G technologies, communications security and privacy, security and privacy issues in deep learning, and semantic communications.

HOW TO GET TO THE INTERCONTINENTAL NINGBO

Taking the Airplane

Ningbo Lishe International Airport → Pan Pacific Hotel Ningbo

- **Taxi:** 40-minute journey

- **Subway:** Take Line 2 (Honglian direction) → transfer to Line 5 (Bucheng direction) at Sanguantang Station → exit at Convention Center Station (Exit A), 10-minute walk.

Taking the (High-speed)Train

Ningbo Station→ Pan Pacific Hotel Ningbo

- **Taxi:** 25-minute journey

- **Subway:** Take Line 2 (Honglian direction) → transfer to Line 1 (Xiapu direction) at Gulou Station → transfer to Line 5 (Camel Bridge direction) at Haiyan Beilu Station → exit at Convention Center Station (Exit A), 10-minute walk.

Driving by Yourself

Please search for "Pan Pacific Hotel Ningbo" in GPS. The navigation will plan your traffic route according to your current position.

Essential Guide

Located in the eastern new town of Ningbo, adjacent to the Ningbo International Convention Center, the Pan Pacific Hotel Ningbo offers upscale accommodations with rates ranging from CNY 500 to CNY 590 per night:

500 CNY Package: Single breakfast included.

590 CNY Package: Double breakfasts included.

Following might be a list of helpful travel tips:

Air travellers from an international location might find it mucheasier and cheaper to arrive in Shanghai Pudong airport (PVG) instead of Ningbo Lishe Airport (NGB).

Local travel from Shanghai Pudong airport to Ningbo:

1. by High Speed Train from one of two: Shanghai Southern Train Station or Shanghai Hongqiao Train Station, The cost will be CNY116-172. Duration is 2-2.5 hours. Frequency is about hourly during the day. To transfer from Shanghai Pudong Airport to one of these two train stations, you can take airport shuttles #1 (to Shanghai Hongqiao Train Station) or #7 (To Shanghai Southern Train Station). The cost is about CNY36.

2. If taking a bus, travelers have to use airport shuttle 7 to Shanghai Southern Train Station, then take a long-distance bus there to Ningbo. The frequency is about 30 minutes during the day.

Taxi and the platform cars i.e. DiDi on Apps, are also very safe and convenient to use. Take DiDi to Ningbo would cost about CNY1000 (equivalent to USD150) and recommend to car pool with others to lower the cost.

Cell phone in China: China has three major cellphone carriers that support roaming with the major cell phone carriers in other countries, such as T-mobile, Vodafone etc.. Roaming in China using your home cellphone should be fine. You can also purchase a local data volume package from Chinese carriers during your visit. That might help you on high speed internet on your phone if your roaming service charge is too high.

Local Electronic Payment Platforms: WeChat.com or AliPay.com. Both are very popular online/phone payment platforms in China. Both platforms are available in other countries too. Recommend the ravelers to load CNY balances on one of these platforms before traveling to China. These can be used to purchase bus, train, airline, hotel, food, etc..

Local currency in China: CNY -- It is much easier and cheaper to get exchange before departing from the travelers' home countries, It can also get exchanged in the airport or inside AliPay or WeChat. It would be much more time consuming to exchange cash inside China since it can only be done in major banks during their normal business hours.

Safety: Travel in China is very safe in general. However, pocket lifting does happen for distracted travelers. So please be alert while you can be easily distracted by many things and learn your route and destination beforehand. Many Chinese do understand basic English and very helpful in major cities. So feel free to ask questions or directions.

ABOUT NINGBO

Ningbo, also known as Yong, is located halfway down the coastline of the Chinese mainland and to the south of the Yangtze River Delta. It is bordered by the natural bulwark of the Zhoushan Archipelago to the east, the city of Shaoxing to the west, the city of Shanghai to the north across the Hangzhou Bay, and the city of Taizhou and Sanmen Bay to the south.

The city's history can be traced back to the Hemudu Culture that originated 7,000 years ago. In the Xia and Shang Dynasties about 4,000 years ago, Ningbo was known as Yin. Later, in the Spring and Autumn Period (770-476 BC), it became part of the State of Yue. In the Qin Dynasty (221-206 BC), it encompassed Yin, Mao and Gouzhang, three areas under the Kuaiji Shire. In the Tang Dynasty (618-907 AD), it was named Mingzhou. In 821 AD, the local authority moved towards the junction of three local rivers and built city walls, marking the establishment of today's city. In 1381 AD, the city acquired its current name of Ningbo, or, literally, Calm Waves.