

International Conference on Future and Intelligent Networking

(FINE 2026)

26 - 28 August 2026 (Japan Standard Time)

Conference Program and Information Booklet

Sponsored by



Advanced Program Summary (Japan Standard Time Zone)

26 August 2026 (Wednesday)	
13:00-14:15	FINE-1: [Short Paper] Future Wireless Networks and Network-Compute Co-Design-S (Room: Lavender)
14:15-14:20	Break
14:20-15:20	FINE-2: [Short Paper] Security, Trust, Privacy, and Network Resilience-S (Room: Lavender)
15:20-15:50	Coffee Break
15:50-17:00	Workshop: ESTNI 2026 & WFN & Poster (Room: Lavender)
17:00-18:00	Break
18:30-20:30	Reception (Room: Greebwich Hall)
27 August 2026 (Thursday)	
09:00-09:20	Opening Ceremony (Room: Snow Berry)
09:20-10:20	Keynote Speech (Room: Snow Berry)
10:20-10:30	Coffee Break
10:30-12:00	Panel: Evolution vs Revolution: The Future of AI-era Communication Networks (Room: Snow Berry)
12:00-13:00	Break
13:00-15:00	FINE-3: Invited Papers-1 (Room: Lavender)
15:00-15:20	Coffee Break
15:20-17:40	FINE-4: Invited Papers-2 (Room: Lavender)
17:40-18:30	Break
18:30-20:30	Banquet (Room: Greebwich Hall)
28 August 2026 (Friday)	
09:00-10:00	FINE-5: Network Automation, Management, and Softwarization (Room: Lavender)
10:00-10:20	Coffee Break
10:20-12:00	FINE-6: AI for Network and Internet of AI Agents (Room: Lavender)
12:00-13:00	Break
13:00-14:00	FINE-7: Future Mobile and Wireless Networks and O-RAN (Room: Lavender)
14:00-14:10	Break
14:10-15:10	FINE-8: IoT, Vehicular, and Industrial Networking Systems (Room: Lavender)
15:10-15:30	Coffee Break
15:30-16:30	FINE-9: Security, Trust, Privacy, and Network Resilience (Room: Lavender)
16:30-16:40	Closing (Room: Lavender)

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Keynote Speech**A Network of Agents**

Prof. Baochun Li

*University of Toronto, Canada***Abstract**

As AI agents become part of everyday computing, the need for flexible, easy-to-use, and high-performance research testbeds for network experimentation has become more pressing than ever. In this talk, I will present two systems that we have been working on over the recent years: Nextmini, our new network experimental substrate and Flies, a production-quality runtime for safe self-modifying distributed multi-agent workflows. Nextmini reflects our latest design principles and thoughts on a modern open-source network experimental testbed. Powered by Rust, it balances flexible user-space experimentation with high-performance forwarding, supports unmodified application workloads, and scales from a single machine to multiple geographically distributed datacenters. (Flies), on the other hand, is our recent take on a new production-quality safe runtime for distributed multi-agent workflows, ideally suited for harness engineering. These workflows are self-modifying in nature, and tasks that are generated at runtime must be assigned to sandboxes to run safely. They run over any network substrate, including Nextmini. Together, these systems point toward a new experimental stack for distributed multi-agent workflows in the age of AI agents.

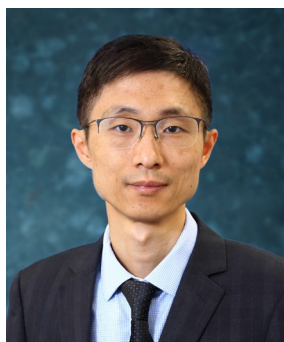
Biography

Baochun Li received his B.Engr. degree from the Department of Computer Science and Technology, Tsinghua University, China, in 1995 and his M.S. and Ph.D. degrees from the Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, in 1997 and 2000. Since 2000, he has been with the Department of Electrical and Computer Engineering at the University of Toronto, where he is currently a Professor. He holds the Bell Canada Endowed Chair in Computer Engineering since August 2005. His current research interests include cloud computing, security and privacy, distributed machine learning, federated learning, and networking.

Dr. Li has co-authored more than 500 research papers, with a total of over 29000 citations, an H-index of 91 and an i10-index of 370, according to Google Scholar Citations. He was the recipient of the IEEE Communications Society Leonard G. Abraham Award in the Field of Communications Systems in 2000, the Multimedia Communications Best Paper Award from the IEEE Communications Society in 2009, the University of Toronto McLean Award in 2009, the Best Paper Award from IEEE INFOCOM in 2023, and the IEEE INFOCOM Achievement Award in 2026. He is a Fellow of the Canadian Academy of Engineering, a Fellow of the Engineering Institute of Canada, and a Fellow of IEEE.

FINE-2026 Plenary Panel Session**Evolution vs Revolution: The Future of AI-era Communication Networks**

Abstract: Artificial intelligence is reshaping modern communication networks, bringing a critical dilemma regarding future network development. One conservative opinion supports incremental evolution, which retains the classic layered network architecture to continuously optimize key metrics such as bandwidth and latency. In this paradigm, AI acts merely as an auxiliary tool, ensuring mature ecosystems and low renovation costs for practical deployment. In contrast, another perspective advocates fundamental network restructuring. Traditional layered structures exhibit obvious limitations in AI-native scenarios, including vehicular networks, intelligent healthcare, and large-model services. With powerful learning capabilities, AI can break rigid network layers, rebuild communication protocols, and further optimize resource allocation for diverse intelligent services. This panel brings together experts from multiple research backgrounds. Panelists will debate the two technical routes from both industrial and academic perspectives. This discussion aims to clarify the advantages and limitations of evolution and restructuring, and explore reasonable technical directions for next-generation AI-driven networks.

Panel Chair

Guoliang Xing, The Chinese
University of Hong Kong, Hong
Kong

Panel Members

Akihiro Nakao
The University of Tokyo,
Japan



Baochun Li
University of Toronto,
Canada



Shiwen Mao
Auburn University
USA



Dileepa Marasinghe
University of Oulu,
Finland

Main Conference Day 1 (Tokyo Time, UTC+9)

Wednesday, 26 August 2026

Wednesday, 26 August 2026 | Room Lavender, 13:00 – 14:15 (Tokyo Time)

Wednesday, 26 August 2026 | Room Lavender, 05:00 – 06:15 (London Time)

Wednesday, 26 August 2026 | Room Lavender, 00:00 – 01:15 (New York Time)

Session FINE-1: [Short Paper] Future Wireless Networks and Network–Compute Co-Design-S

Session Chair: Muhammad Abrar, Lancaster University, U. K.

Implementation of a Programmable Receiver for Precision Positioning Wireless Systems

Chung-An Shen

Robust UAV Swarm Coordination in IoT-Constrained Wireless Environments: A Comparative Study

Yayelin Mo and Muhammad Abrar

NeuroShard: A Decentralized Architecture for Collaborative Large Language Model Training over Heterogeneous Networks

Linir Zamir

Reinforcement Learning-based Resource-Aware Adaptive Inference for Heterogeneous Split Federated Learning

Muhammad Azaz Farooq, Paolo Bellavista and Hafiza Rohma Ahmed

Interference Minimization Algorithm in C-Band for Performance Enhancement of Coexisting 5G and Satellite Radio Access Networks

Gauthier Djiemeni Toudjeu, Thomas Otieno Olwal and Munguakonkwa Emmanuel Migabo

Wednesday, 26 August 2026 | Room Lavender, 14:20 – 15:20 (Tokyo Time)

Wednesday, 26 August 2026 | Room Lavender, 06:20 – 07:20 (London Time)

Wednesday, 26 August 2026 | Room Lavender, 01:20 – 02:20 (New York Time)

Session FINE-2: [Short Paper] Security, Trust, Privacy, and Network Resilience-S

Session Chair: Jelena Mistic, Toronto Metropolitan University, Canada

A Trusted Service Repository for Secure and Intent-Driven Service Orchestration in 6G Service-Oriented Architectures

Ramin Rabbani, Alessandro Carrega and Roberto Bruschi

Blockchain-Governed Federated Analytics for Privacy-Preserving Medical Data Analysis

Aggeliki Farfara and Christoforos Ntantogian

Generative AI for Trustworthy and Compliant Cybersecurity in the Digital Landscape

Charuka Moremada, Engin Zeydan and Madhusanka Liyanage

Post-Quantum Cryptography and Blockchain Framework for Secure AI-RAN in 6G Networks

Don Pasindu Dilshan Udugapattuwa, Chamitha De Alwis, Engin Zeydan, Uditha Wijewardhana and Madhusanka Liyanage

Wednesday, 26 August 2026 | Room Lavender, 15:50 – 17:00 (Tokyo Time)

Wednesday, 26 August 2026 | Room Lavender, 07:50 – 09:00 (London Time)

Wednesday, 26 August 2026 | Room Lavender, 02:50 – 04:00 (New York Time)

International Workshop on Efficient, Sustainable, and Trustworthy Network Intelligence (ESTNI 2026 & WFN & Poster)

Session Chair: Yinfeng Cao, The Hong Kong Polytechnic University, Hong Kong

A Prototype for PDF Documents Integrity Verification Using Chinese National Cryptographic Algorithms and Hardware Isolation

Mau Lam Lo, Xin Yu Huo and Yin Feng Cao

IoT-Based Digital Twin Framework for Real-Time Sensor-data Visualization over 5G Vehicular

Ajmal Khan, Zulqar Nain, Muhammad Bilal, Sayed Chhattan Shah, Younis Alkharusi and Mohammed M. Bait-Suwailem

Synchronizing Vision and Touch for Real-Time Teleoperation over Wi-Fi Networks (Poster)

Mingyu Ma, Yushan Yang, Basak Gülecyüz, Yixin Yuan, Yizhou Wang, Eckehard Steinbach, Frank H.P. Fitzek and Giang T. Nguyen

Main Conference Day 2 (*Time zone: Tokyo Time, UTC+9*)

Thursday, 27 August 2026

Thursday, 27 August 2026 | Room Snow Berry, 09:00 – 09:20 (Tokyo Time)

Thursday, 27 August 2026 | Room Snow Berry, 01:00 – 01:20 (London Time)

Wednesday, 26 August 2026 | Room Snow Berry, 20:00 – 20:20 (New York Time)

Opening Ceremony

Session Chair: Ruidong Li, Kanazawa University, Japan

Thursday, 27 August 2026 | Room Snow Berry, 09:20 – 10:20 (Tokyo Time)

Thursday, 27 August 2026 | Room Snow Berry, 01:20 – 02:20 (London Time)

Wednesday, 26 August 2026 | Room Snow Berry, 20:20 – 21:20 (New York Time)

Keynote Speech: A Network of Agents

- Prof. Baochun Li (University of Toronto, Canada)

Session Chair: Shiwen Mao, Auburn University, USA

Thursday, 27 August 2026 | Room Snow Berry, 10:30 – 12:00 (Tokyo Time)

Thursday, 27 August 2026 | Room Snow Berry, 02:30 – 04:00 (London Time)

Wednesday, 26 August 2026 | Room Snow Berry, 21:30 – 23:00 (New York Time)

Panel:

Topic: Evolution vs Revolution: The Future of AI-era Communication Networks

Panel Chair: Guoliang Xing (The Chinese University of Hong Kong, Hong Kong)

Panel Members:

- Akihiro Nakao, The University of Tokyo, Japan
- Baochun Li, University of Toronto, Canada
- Shiwen Mao, Auburn University USA
- Dileepa Marasinghe, University of Oulu, Finland

Thursday, 27 August 2026 | Room Lavender, 13:00 – 15:00 (Tokyo Time)

Thursday, 27 August 2026 | Room Lavender, 05:00 – 07:00 (London Time)

Thursday, 27 August 2026 | Room Lavender, 00:00 – 02:00 (New York Time)

Session FINE-3: Invited Papers-1

Session Chair: Vojislav Mistic, Toronto Metropolitan University, Canada

Battling Prompt Injection Attacks on LLM-Enabled Autonomous Vehicles

Muhammad Naveed and Wenjia Li

PhySynth: A Physics-Based Synthetic UWB/IMU Data Generator for Training of ML-based Tracking

Tehmina Bibi and Falko Dressler

ELSA-FL: Energy and Load Serving Aware Federated Learning

Anna Lackinger, Pantelis Frangoudis, Andrea Morichetta and Schahram Dustdar

ORION-SDR: Operational RF Intelligence and Observability for Networked Spectrum Monitoring

Bernard Amoah, Jian Zhang, Senthilkumar Cg Periaswamy, Justin Patton and Shiwen Mao

Perception-Aided AI-RAN for Industrial Physical AI Deployments

Dileepa Marasinghe, Shakthi Gimhana, Nuwanthika Rajapaksha, Praneeth Susarla, Thushan Sivalingam, Nandana Rajatheva and Niklas Vaara

``Come Back Later'' Admission Pacing for 5G AMF Registration Storms

Akihiro Nakao

Thursday, 27 August 2026 | Room Lavender, 15:20 – 17:40 (Tokyo Time)

Thursday, 27 August 2026 | Room Lavender, 07:20 – 09:40 (London Time)

Thursday, 27 August 2026 | Room Lavender, 02:00 – 04:40 (New York Time)

Session FINE-4: Invited Papers-2

Session Chair: Nikunj Doshi, Northeastern University, USA

A Zero-Trust Layer-2 Blockchain Architecture for Privacy-Preserving and Scalable Peer-to-Peer Energy Trading

Bimal Ghimire, Het Patel, Danda B. Rawat and Yuba Raj Siwakoti

Distance-Aware Cache Server Placement for Anycast CDNs via Genetic Algorithm

Futo Masai and Noriaki Kamiyama

Lightweight Weather-Regime-Conditioned Rolling Dispatch for Off-Grid PV-Battery-Diesel Communication Sites

Haoting Yu, Biying Shou, Lin Gao, Ming Tang, Hao Xu, Jiangang Guo and Jianwei Huang

QoS-Aware DDS—oneM2M Interworking Proxy Entity for Real-Time IoT

Siwoo Park, Jiho Lee, Jaehyung Jeong and Jaeseung Song

Towards Eavesdropper Awareness in CSI-Based Key Generation

Ashikur Nobel, Honggang Wang and Hua Fang

X-ICS: A Cross-Agency Information and Communication System for Resilient Disaster Response Operations

Yasunori Owada, Goshi Sato, Naoko Shigematsu, Takeshi Isono and Tadashi Ise

Analysis of establishment time of GHZ entanglement over remote nodes

Jelena Mišić and Vojislav Mišić

Main Conference Day 3 (*Time zone: Tokyo Time, UTC+9*)

Friday, 28 August 2026

Friday, 28 August 2026 | Room Lavender, 09:00 – 10:00 (Tokyo Time)

Friday, 28 August 2026 | Room Lavender, 01:00 – 02:00 (London Time)

Thursday, 28 August 2026 | Room Lavender, 20:00 – 21:00 (New York Time)

Session FINE-5: Network Automation, Management, and Softwarization

Session Chair: Giang Nguyen, Dresden University of Technology, Germany

Broker-Coordinated Conflict-Based Search for Multi-Domain Virtual Network Embedding

Yi Zheng, Erik Kline, Sven Koenig and T. K. Satish Kumar

Time-Sensitive Networks Telemetry for PTPv2 Anomaly Detection

Filip Nemec and Tomas Cejka

Good Riddance: the Long and Winding Road Towards a Loop-free Internet

Arthur Weißbeck and Rolf Winter

Friday, 28 August 2026 | Room Lavender, 10:20 – 12:00 (Tokyo Time)

Friday, 28 August 2026 | Room Lavender, 02:20 – 04:00 (London Time)

Thursday, 28 August 2026 | Room Lavender, 21:20 – 23:00 (New York Time)

Session FINE-6: AI for Network and Internet of AI Agents

Session Chair: Nirmal Kumar Jingar, Resilient Coders, USA

QueueTrack: Framework for Detecting the Onset of Queueing in Mobile Networks

Hamid Hassani, Anudeep Karnam, Kishor Joshi, Sonia M. Heemstra de Groot, Ignas G. Niemegeers and George Exarchakos

Federated Aggregation Strategies Handover Prediction under Non-IID data conditions

Teresia Ankome

An Integrated Trustworthiness Framework for Generative AI in 6G Edge Networks

Farah Abed Zadeh, Engin Zeydan, Shen Wang and Madhusanka Liyanage

From Imperfect Teachers to Robust Students: Targeted World Model Augmented Distillation to Enhance Edge-AI's Resilience to Rare-event Failures

Helen Qin and Bo Yuan

Architectural Patterns for Scalable Multi-Agent LLM Systems: A Software Engineering Perspective

Ketankumar Savajiyani

Friday, 28 August 2026 | Room Lavender, 13:00 – 14:00 (Tokyo Time)

Friday, 28 August 2026 | Room Lavender, 05:00 – 06:00 (London Time)

Friday, 28 August 2026 | Room Lavender, 00:00 – 01:00 (New York Time)

Session FINE-7: Future Mobile and Wireless Networks and O-RAN

Session Chair: Amruta Amune, VIT Pune, India

Unified Framework for Studying Handover in O-RAN-Based V2X

Yizhou Wang, Yushan Yang, Mingyu Ma, Ricardo Pousa, Frank Fitzek and Giang Nguyen

Quality-Aware Personalized AI Service Provisioning in UAV-Assisted 6G Networks

Mohammad Farhoudi, Masoud Shokrnezhad and Tarik Taleb

Priority-Aware Hybrid Actor-Critic for Task Scheduling of UAV-Assisted Edge Computing

Yunfei Chen, Quanxi Zhou, Wencan Mao, Guanzhi Lyu, Ye Tao, Kensuke Fukuda and Manabu Tsukada

Friday, 28 August 2026 | Room Lavender, 14:10 – 15:10 (Tokyo Time)

Friday, 28 August 2026 | Room Lavender, 06:10 – 07:10 (London Time)

Friday, 28 August 2026 | Room Lavender, 01:10 – 02:10 (New York Time)

Session FINE-8: IoT, Vehicular, and Industrial Networking Systems

Session Chair: Yinfeng Cao, The Hong Kong Polytechnic University, Hong Kong

Securing the QUIC Protocol: A Binary and System Integrated Analysis Approach

Maitha Alshaali, Tu Wanqing, Gaofei Huang and Mthandazo Ndhlovu

Resilience-State Inference from Wireless Telemetry in Industrial Communication Systems

Shashank Jhansale Anil Kumar, Ahmad Ashraf Zargar, Daijiang Chen, Ramprasad Raghunath, Eduard Jorswieck and Lars Wolf

Domain-Adaptive Split Federated Learning for Efficient Intrusion Detection in Industrial IoT Networks

Aymene Selamnia, Hajar Moudoud, Lyes Khoukhi and Zakaria Abou El Houda

Friday, 28 August 2026 | Room Lavender, 15:30 – 16:30 (Tokyo Time)

Friday, 28 August 2026 | Room Lavender, 07:30 – 08:30 (London Time)

Friday, 28 August 2026 | Room Lavender, 02:30 – 03:30 (New York Time)

Session FINE-9: Security, Trust, Privacy, and Network Resilience

Session Chair: Vidyasagar Palla, Ernst & Young, USA

Evaluation of Label-Flipping Attacks on Federated Anomaly Detection in xG Networks

Salah Ali Bin Ruba, Pedro Braconnot Velloso and Pengwenlong Gu

Efficient Multi-Party Component Interaction in Web 3.0 via Dynamic Interaction Plans and BLS Aggregate Signatures

Yang Liu, Zihang Yin, Tongtong Cheng and Dapeng Wu

CLSOM: Closed-Loop Security Orchestration for Multi-Agent Systems with Trust Scoring, Policy Adaptation, and Runtime Evaluation

Tarun Kundu, Mukesh Dua, Raju Chowdhury and Aniruddha Singh Gautam

Friday, 28 August 2026 | Room Lavender, 16:30 – 16:40 (Tokyo Time)

Friday, 28 August 2026 | Room Lavender, 08:30 – 08:40 (London Time)

Friday, 28 August 2026 | Room Lavender, 03:30 – 04:40 (New York Time)

Closing Session

Session Chair: Ruidong Li, Kanazawa University, Japan