Room C (Grand Ballroom 3), 2F — Chair: Sugang Xu (NICT)

Th2C — July 2 (Thu), 2026

Programmable & Disaggregated Optical Infrastructure — 10:15-11:45

Th2C-1 **10:15-10:30**

Joint Decision-Aware Compression and Offloading for Low-Delay Fixed-Mobile Converged Industrial Networks

Mengxin Zhang[1], Yintao Li[2], Cong Zhu[3], Jin Li[4], Danshi Wang[1], Min Zhang[1]
[1]Beijing University of Posts and Telecommunications, [2]State Grid Jibei Electric Power Company Limited, [3]State Grid Jibei Information and Telecommunication Company, [4]South China Normal University

To address heavy signaling overheads in industrial networks, we propose a decision-aware task offloading framework that jointly optimizes state compression and offloading policy, achieving a 48% delay reduction while maintaining minimal jitter under high loads.

Th2C-2 **10:30-10:45**

Prototype and Demonstration of an Optical-Analog-Optical (OAO) Wavelength Converter for Multi-Domain Optical Direct-Connect Architecture

Hiroki Mori, Junnosuke Hiyama, Takeshi Seki, Rie Hayashi, Toshihiko Tamura
NTT, inc.

We demonstrate an OAO-based wavelength converter for multi-domain optical direct-connect boundaries. It converts 100G-class QPSK signals with SC-FEC and oFEC with limited OSNR penalties, enabling flexible transceiver selection and wavelength-plan decoupling across domains.

Th2C-3 **Invited** **10:45-11:15**

Advanced Programmable Transceivers and Quantum-Secure Communications for Future SDN-Enabled Optical Networks

Michela Svaluto Moreolo[1], Javier Vilchez[1], Laia Nadal[1], Joel Compte[1], Antonio Melgar[2], Jose Manuel Rivas-Moscoso[2], Ramon Casellas[1], Josep M. Fabrega[1], Rafael Cantó[1], Raul Muñoz[1]
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This work presents advanced programmable transceivers and the adoption of continuous-variable quantum key distribution (CV-QKD), to operate classical and quantum channels sharing the same SDN-enabled optical network infrastructure, enabling high-capacity, agile, and quantumsecure communications.

Th2C-4 **Invited** **11:15-11:45**

Policy-Enforced Network Automation using Data Space Principles

Angela Mitrovska[1,2], Behnam Shariati[1], Hussein Zaid[1], Aydin Jafari[1], Pooyan Safari[1], Johannes Karl Fischer[1], Ronald Freund[1,2]
[1]Fraunhofer Institute for Telecommunications, [2]Technical University of Berlin

We present a governance framework that uses data space principles to enable policy-enforced cross-stakeholder device control, cross-domain performance validation, and AI-assisted automation in disaggregated optical networks.