

Room C (Grand Ballroom 3), 2F

Chair: Zhensheng Jia (CableLabs)

**Tu2C**

June 30 (Tue), 2026

Advanced Technologies for PON Evolution

10:15-11:45

**Tu2C-1 Invited 10:15-10:45**

**Enabling Technologies and Signal Processing for Very High Speed PON**

Ryo Koma, Jin Uchiyama, Kazutaka Hara, Jun-ichi Kani, Tatsuya Shimada  
NTT, inc.

This invited talk reviews recent advances in enabling transmission schemes and digital signal processing technologies for future optical access systems beyond the 50Gbps era.

**Tu2C-2 10:45-11:00**

**Adaptive Periodic Clustering for Time-Sensitive Flow Scheduling in Industrial TDM-PON**

Xiang Zhou<sup>1</sup>, Jin Li<sup>2</sup>, Yonghan Wu<sup>1</sup>, Yi Huang<sup>1</sup>, Weixuan Fan<sup>1</sup>, Dongxu Zhang<sup>1</sup>, Mengxin Zhang<sup>1</sup>, Danshi Wang<sup>1</sup>, Min Zhang<sup>1</sup>  
<sup>1</sup>Beijing University of Posts and Telecommunications, <sup>2</sup>South China Normal University

To improve the scalability of time-sensitive flows scheduling, we propose a constraint-driven adaptive periodic clustering method. Simulations show our method can effectively aggregate time-sensitive flows and preserve deterministic delay bounds for scalable deterministic bandwidth allocation.

**Tu2C-3 11:00-11:15**

**SSB and DCPC Enabled 120-Gbaud Full C-Band PON for Direct-Detection Based VHSP**

Kyungmin Woo, HanHyub Lee, HwanSeok Chung  
Electronics and Telecommunications Research Institute

We report a 120-Gbaud directly-detected PON operating at C-band by using single-sideband modulation and digital chromatic dispersion pre-compensation. The results show ~360 ps/nm dispersion tolerance, enabling full C-band utilization and cost-effective coexistence with legacy PONs.

**Tu2C-4 11:15-11:30**

**Experimental Demonstration of 23-dB Symmetrical 10G FTTR Using 2.5G Front End**

Zhicheng Ye<sup>1</sup>, Xuming Wu<sup>1</sup>, Yuanqiu Luo<sup>2</sup>, Frank Effenberger<sup>2</sup>, Yang Lu<sup>1</sup>, Dekun Liu<sup>1</sup>, Yan Zeng<sup>1</sup>  
<sup>1</sup>Huawei Technologies, <sup>2</sup>Futurewei Technologies

We demonstrate 10 Gb/s FTTR transmission by reusing 2.5G optical front-end components. The experiment achieves a 23 dB loss budget, showing a low-cost approach for upgrading FTTR systems to 10G.

**Tu2C-5 11:30-11:45**

**Real-Valued Modulation and Single-Sideband Filtering for Heterodyne Detected PONs**

Yi Che<sup>1</sup>, Sunghyun Bae<sup>2</sup>, Hoon Kim<sup>1</sup>  
<sup>1</sup>Korea Advanced Institute of Science and Technology, <sup>2</sup>Sejong University

We propose and demonstrate the single-sideband filtering to relieve the bandwidth requirement of heterodyne receiver. We achieve decent receiver sensitivities of ~-20.8 dBm for 100-Gb/s OOK signals using a heterodyne receiver having 42- GHz bandwidth.