Highlight from FOAN2026 agenda:

Exploring the Embodied Environmental Impacts of Pluggable Optical Transceivers

the latest research on the growing impact of data centers and high-speed SFP transceivers on energy use and global warming. The presented study analyzes devices up to **1.6 Tbps**, highlighting how increasing speeds and deployment affect the environmental footprint of modern networks

EXPERIMENTALLY VERIFIED

A group of authors from Belgium, the speaker will start soon.

Energy-Efficient Analog Radio-over-Fiber Transmission Using O-Band Directly Modulated Laser

of an artificial intelligence system based on neural networks for the detection, classification and localization of faults in GPONs, using experimental data obtained via OTDR

EXPERIMENTALLY COLLECTED DATA

University of Valladolid, Spain

Silicon Photonics Optical Frequency Comb Source for on-Chip mm-Wave and Sub-THz Bands Signal Generation

Hear firsthand about the experimental demonstration of a fully integrated silicon photonic optical frequency comb source on a chip, utilizing two cascaded high-speed phase modulators. This architecture enables on-chip generation of high-quality millimeter-wave and sub-THz signals, with frequencies up to **330 GHz**

EXPERIMENTALLY VERIFIED

Scuola Superiore Sant'Anna, Italy)

KEYNOT TALK:

Photonic Sensor Networks for Emerging Agriphotonics Applications

This talk introduces the photonic technologies that have been investigated in recent years to improve efficient farming methods

Gerd Keiser, authors of many book

NEW SERVICE INVESTIGATION

Energy-Aware RAN x-Haul over ONaaS-Enabled Metro-Access Network

RAN x-haul services, The paper provides a detailed description of how resources (optical spectrum, subcarriers, routing, and DU units) are dynamically allocated in real time based on traffic demands and network conditions—a key advantage of the ONaaS (Optical Network as a Service) and Digital Subscriber Carrier Multipexer approach.

EXPERIMENTALLY VERIFIED

A mixed group from Italy and Germany:

Highlight from FOAN2026 agenda:

Filter-Aware Modeling of Legacy FBG-Based Dispersion Compensators in Coherent Metro-Access Optical Networks

Experimental measurements of network element parameters (such as filters and FBG modules) are used to create and validate the optical digital twin of the network.

EXPERIMENTALLY COLLECTED DATA

Politecnico di Torino, Italy

OPERATOR TALK: Telekom Slovenije Broadband Access Transition to High-Capacity PON Nodes

Reduction in the number of MSAN sites: The number of MSAN nodes has decreased by **10–15% annually** in recent years, leading to more efficient network management and lower maintenance costs.
Recommendation on maximum subscribers per node: It is recommended that the number of subscribers per node should not exceed **4,000–5,000**

Research And Development Engineer, Fixed Access Network at Telekom Slovenije

Energy-Efficient Analog Radio-over-Fiber Transmission Using O-Band Directly Modulated Laser

- An efficient **A-RoF transmitter** utilizing a **directly modulated laser (DML) in the O-band (1310 nm)**, which eliminates the need for dispersion compensators.

Setting Up an Educational Optical Frequency-Domain Reflectometer: Preliminary Experiments

EXPERIMENTALLY VERIFIED

Preliminary results are presented on the development of an optical frequency-domain reflectometer (OFDR) using only discrete microwave and optical components and general-purpose laboratory instruments, instead of expensive and integrated commercial systems.

University of Ljubljana, Slovenia

KEYNOTE TALK

Integrated Microwave Photonic for 6G

- *You will hear about integrated microwave photonics, which is opening the door to new, advanced applications—such as Massive MIMO, flexible protocols, and increased resistance to interference—in 6G networks that were not possible with conventional electronics.*

Prof. Antonella Bogoni, Head of the "Microwave Photonics" group, Scuola Superiore Sant'Anna