

EURO-FOS NEWSLETTER



◆ Issue 2

◆ December 2008

► Newsflashes

EURO-FOS endorses next ICTON conference to be held 28/6 - 2/7 2009 in Azores, Portugal

EURO-FOS Pan-European System Lab goes online!
www.eurofoslab.eu

AIT and UPC report record performance at 10 Gb/s using low bandwidth RSOAs for PONs

POLITO and HHI gear up for developing 100 Gb/s coherent optical communication systems

EURO-FOS Consortium wishes you Merry Christmas and a Happy New Year!



► About EURO-FOS

Project EURO-FOS (Pan-European Photonics Task Force: Integrating Europe's Expertise on Photonic Subsystems) is a Network of Excellence project, co-funded by the European Commission through the 7th Framework Programme, Information & Communication Technologies (ICT). The project runs from May-08 to April-12 and targets the creation of a powerful Pan-European cluster of research groups specializing in the research and development of photonic subsystems and systems applicable to telecommunications.



visit ► ICTON 2009

*28 June - 2 July 2009
Island of São Miguel, Azores, Portugal*

EURO-FOS project endorses ICTON 2009. The scope of the Conference is concentrated on the applications of transparent and all-optical technologies in broadband telecommunication networks, systems, and components, including:

- Digital All-Optical Networks
- Ultra-dense Wavelength-Division Multiplexing
- Ultra-fast Optical Time Domain Multiplexing
- Optical switching & routing (WAOR)
- Network reliability & availability (RONEXT)
- Wireless & Optical Networking (GOWN)
- Photonic Band-Gap structures (ESPC)
- Nanoscale & ultrafast photonics (NAON)
- Microresonators & Photonic Molecules
- Novel glasses
- Photonic component integration (PICAW)

► EURO-FOS will organize a workshop on high-speed switching systems for telecommunications ◀

www.itl.waw.pl/konf/icton/2009/

► ICT-BONE and EURO-FOS team up

The two Networks of Excellence ICT-BONE and ICT-EURO-FOS will join forces and develop specific collaboration opportunities for creating economies of scale in terms of research, mobility actions and dissemination activities.

Common research thrusts planned:

- Optical Switching Systems
- Optical Transmission Systems
- Optical Access Networks



EURO-FOS @ BONE Booth ECOC 2008



► EURO-FOS Pan-European Lab goes online

Test your prototypes in our labs!

The EURO-FOS Pan-European Laboratory is a powerful pan-European laboratory that clusters the capability of top European photonic laboratories specializing in the design and development of photonic systems and subsystems through the functional integration of photonic components.

The EURO-FOS Pan-European Laboratory harnesses the best of what Europe has to offer in the field of photonic systems to create a laboratory with unprecedented strength and extensive resources.

These resources are state-of-the-art photonic system testbeds, advanced transmission labs, non-commercial research prototype photonic devices and latest lightwave test & measurement equipment, interconnection links and expertise available at the participating institutions.

The EURO-FOS lab website is now online and the database is currently being completed.

www.eurofoslab.eu

tech

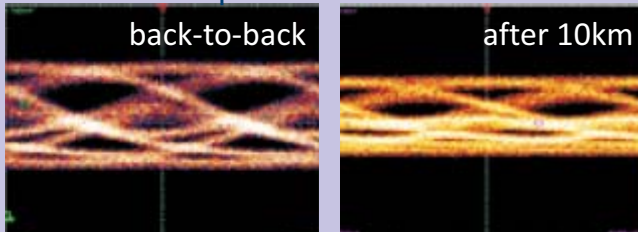
► Speeding-up the Access Net

RSOAs & PONs

Researchers from **Athens Information Technology, University of Patras** and **Universitat Politècnica de Catalunya** have demonstrated enhanced upstream transmission at 10 Gb/s using low-bandwidth reflective semiconductor optical amplifiers (RSOAs). These amplifiers are suitable for extended wavelength division multiplexing passive optical network (WDM-PON) applications. Significant improvement in terms of transmission performance and enhanced upstream optical reach, exceeding the impressive distance of 85 km, are achieved by incorporating electronic equalization and optimum filter offset placed at the receiver end only.

*IEEE Photon. Technol. Lett.,
vol. 20, Dec. 2008, p. 2168*

normal RSOA operation



Filter-assisted RSOA operation



tech

► 100Gb/s Coherent Comms

Future 100 Gb/s optical networks will require robust spectral efficient transmission systems. Coherent digital receivers can compensate for the linear transmission impairments, such as dispersion, and detect signals with complex constellations. **Politecnico di Torino** and **Heinrich-Hertz-Institut** gear up for research on next generation 100 Gb/s coherent systems.

Researchers from the **Politecnico di Torino** and **Heinrich Hertz Institut** are investigating the performance of 100 Gb/s transmission over uncompensated installed SMF links using PM-QPSK, PM-8PSK and PM-16QAM modulated signals. The picture below shows the QPSK constellation for the 2 polarisation states measured on the 100 Gb/s PM-QPSK signal.

