Information & Communication Technologies
7th Framework Programme

EURO-FOS NEWSLETTER

Issue 3 April 2009

Newsflashes

EURO-FOS organizes 1st Workshop on Photonic Systems (WORPS) collocated at ICTON 2009

Don't miss the European Workshop on Wireless, Access and In-House Networks, held on 18-20 May 2009 in Duisburg, Germany!

World's best 10Gb/s Burst-Mode Receiver was fabricated by IMEC

VPI Systems GmbH joins EURO-FOS as an industrial affiliate

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 Workshop

28 June 2009
Island of São Miguel, Azores, Portugal

EURO-FOS project organizes the **1st workshop on photonic systems (WORPS)**. This year's workshop *"Technologies for developing Terabit capacity switching systems"* will focus on the underlying theory and possible applications of optical signal processing in future high-speed communication networks.

Workshop Topics

Optical Signal Processing
How can we switch "light" with "light"?

Approaching Terabit/Second Switching Speeds
Can we develop compact switches with Tb/s speeds?

Developing next generation routers
Is photonics a viable technology solution for future Terabit Routers? The Whys and Hows

Speakers and programme to be announced

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

visit

European workshop on photonic solutions for wireless, access and in-house networks

18 - 20 May 2009
Duisburg, Germany

The aim of the workshop is to provide an overview on actual research activities in Europe in the area of photonic communications (wireline and wireless for access and in-house), to foster European cooperation in that areas and to provide a forum for discussing about future activities at a European level.

Technical demonstrations will be organised during the workshop as well as laboratory visits.

Workshop main topics:

Optoelectronic hardware developments for wireless photonics applications
In-house and in-building networks
Convergence of wireless and FTTx technologies

http://www.ist-iphobac.org/workshop/

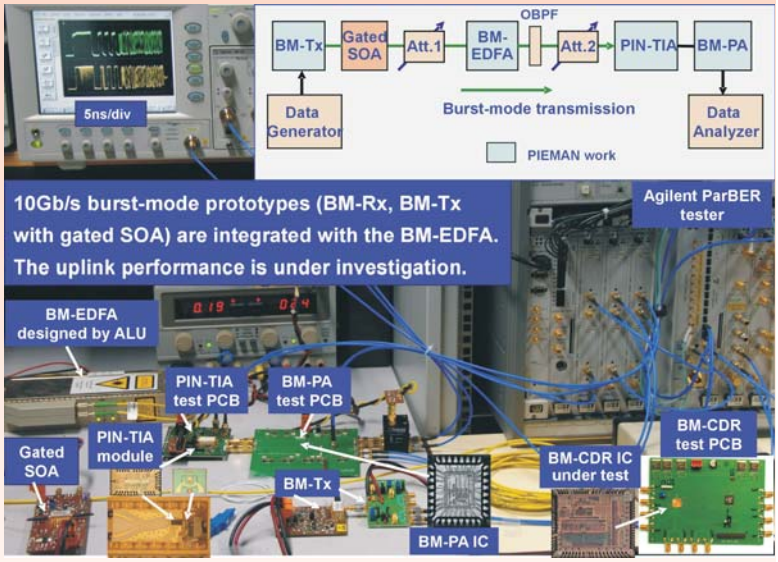
tech

10Gb/s Optical Access Networks - One step closer!

World's first DC-coupled resetless BMRx made in Belgium, Europe

Researchers from INTEC, IMEC's associated laboratory at Ghent University in Belgium, have developed 10Gb/s DC-coupled resetless burst-mode receiver (BMRx) chips and subsystems for next generation long reach passive optical networks. The burst-mode prototypes support a guard time and a preamble time as short as 25.6ns, which is the shortest ever published for such a receiver. To achieve efficient network transmission and high interoperability, no time-critical control signals cross the boundary between the PON physical layer and MAC layer. The research achievements are the first of their kind, and were or will be published in IET/IEEE journals and on major conferences.

The picture of the lab setup shows the 10Gb/s burst-mode prototypes integrated into an experimental PON upstream link.

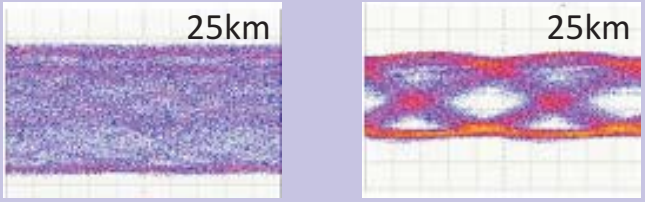


tech

10 Gb/s Access Nets using 1.2GHz bandwidth Transmitters

Researchers from **Athens Information Technology**, **University of Patras** and **Universitat Politecnica de Catalunya** have demonstrated full duplex bidirectional transmission at 10 Gb/s using low-bandwidth reflective semiconductor optical amplifiers (RSOAs) with a maximum bandwidth of only 1.2 GHz. Succesfull transmission up to 25 km of standard single mode fiber was achieved when the system was assisted by optimally detuned optical filtering and electronic equalization.

conventional system **...and using the new technique**



Optics Express, Vol. 17 Issue 7, pp.5008-5013, March 2009

New Industrial Affiliate

VPI Systems GmbH: Welcome aboard

VPI's best-in-class optical design and configuration tools require constant innovation to follow the technological trends in the ever evolving optical telecom industry. As SME without environment for experimental studies, VPI will collaborate with EURO-FOS partners for developing next generation simulation tools.

tech

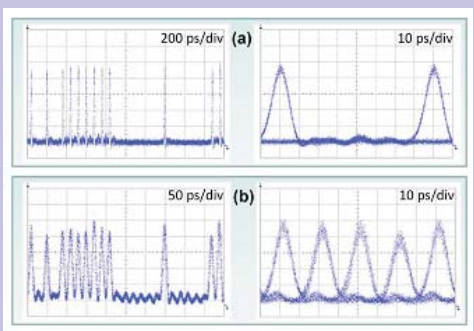
Testing ultra-high-speed optical signals

Research and development on ultra-high-speed photonic systems requires advanced and expensive test and measurement equipment. One recurring difficulty for lightwave technology research groups is the need to upgrade testing infrastructures regularly, as data repetition rates increase.

Researchers from the **National Technical University of Athens (NTUA)** have developed a way to multiply the rate of test signals (PRBS), in a single-stage multiplier, independent of the multiplication factor. The system exploits optical signal processing techniques in fiber-based non-linear optical switches. The concept can be extended for generating optical test signals at Terabit/Second speeds.

Input data pattern @ 12.5 Gb/s

Multiplied data pattern @ 50 Gb/s



IEEE Photon. Technol. Lett., p. 456, Vol. 21, No. 7, April 2009