

P37: Instituto de Telecomunicações IT (Portugal)

Description of expertise & activities

Website: http://www.it.pt

Description: IT is a non-profit research institute hosted by major Portuguese universities (University of Aveiro, University of Coimbra and Instituto Superior Técnico) and by Portugal Telecom Inovação and Siemens SA. IT has 104 researchers and four main research areas: Optical Communications, Wireless Communications, Networks and Multimedia and Basic Sciences and Enabling Technologies. In the area of Optical communications, the relevant thematic areas are opto-electronics, ultrafast all-optical signal processing in Semiconductor or fibre, regeneration, routing, switching, wavelength conversion, WDM and OTDM high capacity transmission, packet switching, optical labelling, label-controlled optical routing. In this area IT participated in European and national and international research and industry projects.

Tasks within BONE

WP01	Collaborations in Organization of dissemination events at major conferences.
WP02	Generation of teaching material to be shared in the NoE.
	Use of the NoE teaching material in optics courses at Unive Aveiro
	Possible contributions to Summer/Winter schools.
WP03	
WP11	Design, performance evaluation, and prototyping of innovative WDM packet metro network architectures.
	Comparison of optical networking architectures for metro applications.
	Design of WDM wavelength-routing networks.
WP13	IT is studying the impacts of propagation and the presence of other signals in high density phase coding schemes that are proposed for Radio-over-fibre networks. IT is also interested in exploring ultra-high data rates (40G + WDM) in ESO, tasting limits to these technologies, specially leaving the heads passive, will
	consider techniques to increase survivability. Fault performance and monitoring in Access: characterize techniques which are able to perform monitoring and fault detection e.g. OTDR, advanced articulated monitoring of basic parameters and signalling.
WP14	IT will contribute to the review and assess of current enabling-technologies, study emerging applications and switching functions in RoF and impairments. Also new technologies will be assessed
WP15	IT will contribute on monitoring strategies for high data rate efficient transmission systems. The coordination with compensation techniques.
WP23	IT will contribute with studies on the limitations of FSO and RoF techniques when considering networks in motion
WP26	IT will contribute with studies on issues about integration of IP over the optical layer and IP over optics
	Optimization and limitation issues of the above mentioned techniques will be identified.
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WP27	If will lead the activity. It is of interest of the promoter to identify the infiniting parameters which can be used in two levels to define algorithms which could be implemented at router or management level
	used in two levels to define algorithms which could be implemented at router or management level.
	Define, by simulation and eventual lab demonstrations of the two types of impairments to be dealt with.

Key personnel

A. Teixeira is an assistant professor at the University of Aveiro since 1998 and researcher at the Instituto de Telecomunicações since 1995, he has been working in the field of optical communications and networking since 1995 and participating in several private, National and EU funded Projects.

M. J. N. Lima was born in Lourosa, Portugal, on April 21, 1972. He received the Licenciatura degree in Electronics Engineering and Telecommunications, in July of 1994, the MSc degree in Telecommunications Systems, in June of 1998, and the PhD degree in Electrical Engineering in July of 2003, all from the University of Aveiro, Portugal.

Paulo André is a Assistant Researcher at the Instituto de Telecomunicações since 2002 and an assistant professor at the University of Aveiro since 2003, he has been working in the field of optical communications and networking since 1996 and participating in several private, National and EU funded Projects.

Rogerio Nogueira has a PhD degree in Physics from the University of Aveiro. He is now an Assistant Researcher in the Institute of Telecommunications where he has been working in the field of optics communications since 1999. Dr. Nogueira is a co-author of more than 30 papers in international journals and more than 70 papers in international conferences.