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All-fibre devices for modern telecommunication systems

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Abstract
Optical fibre technology enables the implementation of several key operations that increase the functionality of the optical layer in modern communication networks. Thus, optical fibres are used not only for transferring data signals from one point to the next, but also to implement sophisticated devices such as filters, amplifiers, or even ultrafast all-optical switches. This talk will review some of the most enabling fibre-based devices, such as the erbium-doped fibre amplifier and the fibre Bragg grating, and will also explore the exploitation of fibre nonlinearities for the implementation of switching devices.

Dr. Periklis Petropoulos was born in Patras, Greece in 1973. He graduated from the Department of Electrical Engineering and Information Technology, University of Patras, Greece in 1995. He received the MSc degree in Communications Engineering from UMIST, UK in 1996 and the PhD degree in Optical Telecommunications from the Optoelectronics Research Centre (ORC), University of Southampton, UK in 2000. Since then he has been with the ORC working as a Research Fellow.
During his time at Southampton he has been involved in a number of research projects in the areas of optical fibre communications, pulsed fibre lasers, nonlinear materials and holey fibres. His current research interests include all-optical processing and switching in optical fibres, pulse manipulation for optical communications using fibre Bragg gratings, and nonlinear applications of holey fibres.
Dr. Petropoulos has published more than 75 papers in journals and conferences in the field of optical physics and optical communications.