



IEEE Photonics society, French Chapter/Chapitre Français
Seminar announcement/Annonce de séminaire

Title/Titre: **Low Power Consumption Optical Amplification Using Multicore Erbium Doped Fiber Amplifiers**

Speaker/Orateur: **Speaker/Orateur: Emmanuel Le Taillandier de Gabory**
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Location/Lieu: TELECOM ParisTech
Ecole Nationale Supérieure des Télécommunications, CNRS/LTCI
46 rue Barrault, 75634 Paris Cedex 13
Room/Pièce : Pièce A310

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Abstract / Résumé

In order to fulfill the uninterrupted growth of internet traffic, different technologies have been introduced, increasing the capacity of optical communication systems, including dense wavelength-division multiplexing and coherent detection used in conjunction with advanced signal processing. However, the capacity limit of single mode fiber has been approached at about 100Tb/s, which is within one order of magnitude of commercially available systems. Space-division multiplexing (SDM) is being explored to overcome this bottleneck, including the use of multicore fibers (MCF). Besides, multicore erbium doped fiber amplifiers (MC-EDFA) do not only accommodate MCF for ultra-high capacity but they also enable significant reduction of power consumption of amplification; this benefit is crucial in cases of limited available power supply or of very high density integration.

In this talk, we will focus on low power consumption optical amplification using MC-EDFA. We will review different pumping schemes and recent results of MC-EDFA research including cladding pumping and hybrid of cladding and core pumping schemes. We will further discuss the influence of MC-EDFA on transmission system performance.

Biography/Biographie

Emmanuel Le Taillandier de Gabory was born in Libourne, France, in 1975. He received an Engineering Diploma from the École Supérieure d'Optique, Orsay, France, in 1999 (now Institut d'Optique Graduate School, Palaiseau, France).

From 2000 to 2007 he worked at Fujitsu Quantum Device Ltd., Yamanashi, Japan (now Sumitomo Electric Device Innovations). He was in charge of developing tunable lasers and transceiver modules for optical communications. In 2007, he joined NEC Corporation, Kanagawa, Japan, where he is currently Principal Researcher in the System Platform Research Laboratories; he is leading the team in charge of researching and developing technologies for high capacity long haul optical transport systems.

He has been working on transmission technologies for high-capacity long-haul WDM transmission systems, also including SDM transmission systems. He namely contributed to the world first demonstration of real-time single-carrier 100G transmission in 2010 and to the realization of best in class transpacific QAM systems in 2016. He is a senior member of the IEICE (Japan) and a member of the technical committee of EXAT. He has authored and coauthored more than 50 papers and 30 patent applications.



For more information, please feel free to contact/Pour tout renseignement complémentaire, merci de contacter :

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