Internship/PhD for Optical coding team

The mission of our Optical Communication Technology Laboratory is to work on high capacity wavelength-division multiplexing (WDM) system, and to make research on cutting edge technologies regarding the forward error correction (FEC) and digital signal processing (DSP) for optical transponder, to maximize capacity of long distance WDM systems and to work on innovative optical components. We are opening the internship and PhD positions for curious, proactive students interested in participating in our cutting-edge researches.

The power consumption and hardware complexity of FEC engines are a limiting factor for optical transponders. In our group, we perform research on the soft-decision FEC, in particular Turbo Product Code (TPC) and the Low-Density Parity-Check (LDPC) code, addressing the following aspect:
- Research and innovate in the area of coding for optical communications.
- Characterization of hardware complexity and power consumption of state-of-the-art FEC solutions.
- Comparative study of the different FEC solutions characterizing the performance-complexity tradeoff.
- Development of optimal FEC algorithms for target complexity and performance.

A candidate should have
- Knowledge in coding theory, information theory, and digital communication.
- Knowledge of software development with C/C++ and scripting languages like python…
- Knowledge of FPGA programming in Verilog is a plus.

The selection of the specific research topic, and thus of the supervisor, will be concerted with the students, based on their personal interests and skills, along with company and state of the art developments at the start of the program.

All interested students should send their inquiries and applications, in the form of an up-to-date CV and brief letter of presentation, to:

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Paris Research Center performs strategic research and cutting edge development for Huawei.

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