PhD positions

ERC Consolidator Grant InnoSpace

"***Revolutionizing fiber-wireless communications through space-division multiplexed photonics***"

The **Photonics Research Labs** of the ITEAM Research Institute (Universitat Politècnica de València) offer **3 PhD positions** for an Electrical/Telecommunications Engineer with a background in Photonics and Optical communications. The contracts are offered for an initial 4-month period (extendable up to 4 years) within the framework of the European **ERC Consolidator Grant** InnoSpace "Revolutionizing fiber-wireless communications through space-division multiplexed photonics".

The idea of the project **InnoSpace** is to develop what we call "distributed signal processing", where simultaneously to radiofrequency distribution and MIMO connectivity, the same optical fiber will implement a variety of broadband functionalities that will be especially demanded in future 5G smart radiating systems and wireless personal area networks. This approach requires working on a new portfolio of advanced optical fibers exploiting space-division multiplexing techniques: Homogeneous multicore fibers in combination with dispersive elements, heterogeneous multicore fibers and few-mode fibers.

Each one of the PhD students, together with the rest of the research team, will **work on** one of these 3 optical fiber technologies. This implies, in first place, to work on new design algorithms and theoretical analysis using specific numerical software and Matlab. Then, they will contribute to the fabrication, monitoring and characterization of the proposed optical fibers and devices. Finally, the PhD students will apply the developed optical fibers and devices to a set of representative Microwave Photonics applications that are required in broadband fiber-wireless communications. This implies the experimental demonstration of tunable microwave signal filtering, optical beamforming for phased array antennas and arbitrary waveform generation.

The candidates should have a Telecommunications/Electrical Engineering Degree (or equivalent degree) with an academic background in photonics and optical communications.

- Duration: initially 4 months (extendable up to 4 years)
- Estimated starting date: 01/04/2017
- Monthly remuneration: 1250€

For further information about the position, please contact **Dr. Ivana Gasulla** by email: ivgames@iteam.upv.es.