

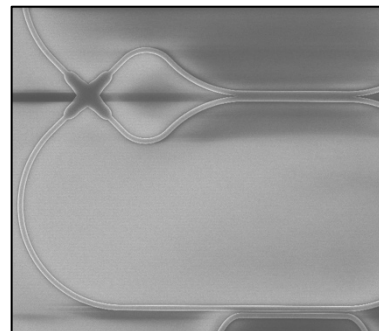
European MSCA Ph.D. grant position on Multicore Fiber Technology and Applications

Nanophotonics Technology Center

Universitat Politècnica de València, Spain

Multicore fiber (MCF) technology is recognized as the leading solution for a scalable optical fibre connectivity supporting the capacity levels required by state-of-the-art optical networks and the interconnection of novel parallel photonic systems, offering the potential of lower cost, reduced power consumption and unparalleled performance.

We are offering a Ph.D. position at the Nanophotonics Technology Center (NTC) in the field of Photonic Integrated Circuits (PIC) in a MCF-connected photonic parallel architecture. The research addresses Silicon-photonics PIC micro-nanofabrication, spatially multiplexed optical modulation/demodulation, optical coupling, device packaging, characterization and experimental validation. The research finds application in photonic beamforming networks, machine learning neural-networks, and general distributed parallel photonic processing. The candidate will gain world-class experience in PIC design and fabrication, including state-of-the-art design and simulation tools, experience in leading edge micro-nanofabrication equipment (e-beam lithography, epitaxy, etc.) and associated back-end services, and also experience in state-of-the-art MCF design and fabrication.



Offer main characteristics:

The Ph.D. candidate will work in an international team including telecommunications engineers, material physicists and micro-nanofabrication engineers. The research will be performed within the European Marie Skłodowska-Curie Actions MSCA Doctoral Network MATCH “*Multicore fiber Applications and Technologies*” (HORIZON-MSCA-2023-DN-01-01-101169370).

This Ph.D. position includes a 3-year contract starting 1st January 2025 according to MSCA salaries (MSCA Doctoral Networks HORIZON-MSCA-2023-DN-01-01) and allowance to cover living costs. The candidate will also be able to participate in the Transferable Skills Workshops, Mini-symposiums and Summer Schools organized in the MSCA Doctoral Network MATCH. Research stays in the Instituto Universitário de Lisboa (www.iscte.pt) in Lisbon (Portugal) and in the University of Central Florida (www.ucf.edu) in Orlando (USA) are granted.

Requirements:

- Candidates must not have a doctoral degree at the date of their recruitment. It is recommended the candidate to hold a degree in Telecommunications Engineering but other profiles (e.g. Physics, Photonics) may be also adequate.
- Candidates must have completed the Master studies at the time of incorporation so they can enrol in the Ph.D. programme in Telecommunications of the *Universitat Politècnica de València*, Spain. This programme has been receiving the Quality Award from the Spain Ministry of Education, Culture and Sports since 2003. Master studies related to optics and/or nanotechnology will be valuable.
- MSCA mobility rules: candidates must not have resided or carried out their main activity (work, studies, etc.) in Spain for more than 12 months in the 36 months immediately before their recruitment date.
- A high level in English is mandatory.
- Experience in the design and characterization of photonic integrated devices and/or multicore fiber applications will be very valuable. Hands-on experience in simulation analysis software (such as RSoft, Comsol, VPI Photonics, etc.) will be also considered positively.

If interested, send a motivation letter and a short CV to our HH.RR. manager Ms. Isabel Salas (misalas@ntc.upv.es). Technical inquiries regarding the scientific work can be addressed to: Prof. Maria Morant (mmorant@ntc.upv.es) or Prof. Roberto Llorente (rllorent@ntc.upv.es). Interviews for the position will follow after the submission.

Relevant dates:

- Application deadline: **October 15th, 2024**
- Contract signing and onboarding: **January 1st, 2025**

Further information:

MSCA Doctoral Network: <https://match.iscte-iul.pt/>

Nanophotonics Technology Center overview: www.ntc.upv.es

Universitat Politècnica de València: www.upv.es