Job Description
Doctoral Position

DC5: Electrically reconfigurable metasurfaces for thermal management using phase-change materials.

Doctoral position at the Nanophotonics Technology Center at the Universitat Politècnica de València, in Valencia, Spain.

Main supervisor: Prof. Ana Díaz-Rubio [UPV]

Co-supervisors/mentors: Prof. Carsten Rockstuhl [KIT], and Dr. Victoria Tormo-Marquez [INDRA]

UNIVERSITAT POLITÈCNICA DE VALÈNCIA

Objectives:

- Development of reconfigurable metasurfaces that can operate as switchable thermal IR signature reduction devices controlled by an electrical stimulus using chalcogenide materials and designed using full-wave simulation and gradient-based optimization.
- Characterization of phase-change materials at the operation band and development of electrical control using microheaters. Exploration of novel materials to perform thermal tunability.
- Development of the nanofabrication processes and fabrication of reconfigurable metasurfaces. Characterization of the metasurfaces at the operation frequency using FTIR.

This position is part of the MetaTune Doctoral Network "Reconfigurability using inversely designed metasurfaces", which has been funded under the Horizon Europe Marie Skłodowska-Curie Actions (MSCA) program.

Acquire knowledge: During the development of the thesis, the candidate will acquire deep knowledge of the electromagnetic and thermal properties of materials, as well as the ability to characterize them accurately. In addition, the candidate will fabricate and characterize final devices and gain hands-on experience in metasurface design.

Design	Materials	Fabrication	Characterization
●●●○○	●●●●●	●●○○○	●●●●○

→ Go to the project webpage for more information

Job Description

Doctoral Position

What METATUNE Offers:

- Gross salary starting on 3.500€/month (42.000€/year), with potential for additional funding depending on your family status.
- Work contract at the UPV for 36 months funded through the MSCA network, with the additional benefits for employees (public and universal health system, free schools, etc.).
- Two 3-month research stays, one at Karlsruher Institut für Technologie and one at Indra Sistemas in Madrid, are foreseen in the research plan.
- Opportunity to pursue a PhD degree at a leading European university within a collaborative, international network.
- Training program including research-specific and transferable skills courses.
- Active participation in workshops, conferences, and network-wide events to build professional and scientific connections.
- Stimulating, multidisciplinary, and international research environment within a prestigious European training network.

Starting date: November-December 2026.

Deadline for online application: May 31, 2026 (but candidates are encouraged to apply as soon as possible).

Mandatory Requirements:

- You must have a finalised **master's degree** in fields related to the research topic: Telecommunications Engineering, Applied Physics, Optics, Electrical Engineering, Material Engineering.
- You should **not have a doctoral degree** at the time of recruitment.
- You must not have resided or carried out your main activity (work, studies, etc.) in Spain for more than **12 months in the 36 months** immediately before the recruitment (this is a requirement from the funding authority).
- Strong skills in the **English** language.

→ Apply Now!