

DC7: On-chip reconfigurable metasurface for beam steering.

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. Rasmus E. Christiansen \[DTU\]](#), and [Prof. Isabelle Staude \[JENA\]](#)



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Objectives:

- To design and analyze reconfigurable photonic structures based on leaky-wave antenna principles excited by guided optical modes.
- To develop and apply inverse-design and gradient-based optimization methods, supported by full-wave electromagnetic modelling, for the efficient synthesis of these reconfigurable photonic devices.
- To fabricate and experimentally characterize photonic prototypes incorporating phase-change materials and liquid crystals in order to validate their reconfigurable performance.

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: Throughout the thesis, the candidate will develop strong expertise in the modeling and characterization of reconfigurable photonic materials and structures. The candidate will also gain practical experience in inverse design, nanofabrication, and experimental testing of photonic devices.

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 4-month research stays, one at Danmarks Tekniske Universitet and one at Friedrich-Schiller-Universität Jena
- 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.

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