

DC13: Advanced control of wavefronts using liquid-crystals-based reconfigurable metasurfaces.

Doctoral position at the [Institute of Solid State Physics](#) at the [Friedrich Schiller University](#) in Jena, Germany.

Main supervisor: Prof. [Isabelle Staude](#) [JENA]



FRIEDRICH-SCHILLER-
UNIVERSITÄT
JENA

Co-supervisors/mentors: [Prof. Rasmus E. Christiansen](#) [DTU], and [Prof. Carsten Rockstuhl](#) [KIT]

Objectives:

- Development of liquid-crystal integrated all-dielectric metasurfaces for dynamic wavefront control, exploring new concepts for enhanced tuning speed and spatial resolution.
- Design and experimental realization of compact and tunable holographic metasurface devices using inverse design techniques.
- Characterization of prototypes using near-infrared spectroscopy, interferometry, and advanced image analysis.

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

Acquired knowledge: During this thesis, the candidate will acquire expertise in nanostructure design and fabrication, liquid-crystal-cell integration and optical characterization of reconfigurable optical metasurfaces.

Design
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Materials
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Fabrication
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Characterization
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[→ Go to the project webpage for more information](#)

Job Description

Doctoral Position



What METATUNE Offers:

- Gross salary starting on 3.920€/month (47.040€/year), with potential for additional funding depending on your family status.
- Work contract at the Friedrich Schiller University Jena 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 Karlsruher Institut fuer Technologie 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: Physics, Optics & Photonics, Electrical 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 Germany 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!