Job Description
Doctoral Position

DC8: Exploiting optical phase transitions in metasurfaces for discontinuous tuning response.

Doctoral position at the Institute of Solid State Physics at the Friedrich Schiller University in Jena, Germany.

Main supervisor: Prof. Isabelle Staude [JENA]

Co-supervisors/mentors: Dr. Sven Burger [JCM], and Prof. Viktar Asadchy [AALTO]

Objectives:

- Development of reconfigurable metasurfaces based on responsive materials such as liquid crystals and light-responsive polymers.
- Study of the feasibility and fundamental limits of discontinuous tunability based on optical phase transitions in disordered metasurfaces.
- Detailed investigation of the dynamic response of the tunable metasurfaces. Evaluation of their tuning performance in terms of, e.g., tuning contrast and speed.

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.

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

→ Go to the project webpage for more information

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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 at JCM Wave GmbH in Berlin and Aalto University in Finland are foreseen in the research planning.
- 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.

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