



e-conversion



Seminarankündigung

**Dienstag, 18. Mai 2021
17:00 Uhr**

ONLINE via ZOOM

“Metasurfaces for orbital angular momentum holography, fibre optical trapping, and energy harvesting”

This talk will focus on our recent research results regarding applications of metasurfaces. Firstly, we will present the potential of direct laser writing for the generation of large-scale metasurfaces for applications in holography and fibre optics. Specifically we introduce metasurface holograms which conserve orbital angular momentum, allowing a new degree of freedom for multiplexing. The laser writing fabrication technique is then applied to direct patterning of metasurfaces on the end facets of optical fibres, and applications in optical trapping and achromatic imaging are demonstrated. While metasurface allow control over light due to their intrinsic order, also disordered ensembles of nanostructures show large potential for nanophotonic applications. We show recent results of a tunable disordered cavity system that enables material-independent broadband light harvesting, while at the same time the colour of the cavity can be tuned throughout the visible spectrum. Such cavities could find applications in a context of solar light harvesting for energy conversion.

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