

Fakultät 1  
Institut für Physik

## ***Invitation to Physics Colloquium***

Lecturer:

***Hanying Wen  
Fraunhofer Institut***

Topic:

### ***"Investigating Impacts of TiN Interstitial Layer combined with Nanophotonic Structures in Si-based Short-Wavelength Infrared Schottky Photodetectors"***

In this presentation, we investigate the integration of a titanium nitride (TiN) interstitial layer with nanophotonic structures in silicon-based Schottky photodetectors for short-wavelength infrared (SWIR) applications. We first evaluate the performance of the Si/TiN system, focusing on the electrical properties the diode has. We then explore how nanophotonic designs can further optimize light absorption. Finally, we discuss the combined effects of TiN integration and nanostructuring on the electrical and optical properties of the photodetector. This work aims to advance the development of high-performance, CMOS-compatible infrared photodetectors for environmental sensing.

**Date:** Thursday, 12.06.2025

**Time:** 03:30 p.m.

**Location:** ZHG, room SR1

*Im Auftrag von Prof. Flege - Stefanie Jannasch*

*FG Angewandte Physik und Halbleiterspektroskopie*

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