

Einladung zum 228. Institutskolloquium

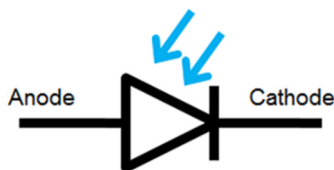
Thema: **An Overview of Photonic Devices: From Single Components to Photonic Integrated Circuits**

Vortragender: **Prof. Dr.-Ing. Kambiz Jamshidi, Institut für Nachrichtentechnik, TU Dresden**

Leitung: **Prof. Dr.-Ing. habil. Jens Lienig**

Zeit / Ort: **17. Januar 2020, 14 Uhr im Barkhausenbau II/26**

Photonic devices are components for creating, manipulating or detecting light. This can include laser diodes, light-emitting diodes, solar and photovoltaic cells, displays and optical amplifiers. Silicon-based photonic devices have undergone rapid and significant progress during the last decade, transitioning from pure research topics in universities to practical applications in many fields. Wafer-scale CMOS fabrication enables silicon photonics to be a viable platform for very large-scale photonic circuits. The research of the integrated photonic devices (IPD) group at TU Dresden is focused on two areas: IPD for short-distance communications and for non-classical computing.



The 30-minutes talk will start with an introduction into photonic devices, their various applications and their enormous potential for future applications. After that, the key components which can be realized using silicon photonics technology and are fabricated on a CMOS compatible platform will be introduced. The current activities in the community concerning the development of these devices and the challenges that need to be overcome to realize photonic ICs in terms of fabrication and modeling will be discussed. This will be followed by an introduction into the activities of the integrated photonic devices (IPD) group. The talk concludes with an outlook into the future development and applications of photonic devices.