

Invitation to SPIE visiting lecturer presentation

**When the trend is your friend: On the mutual reinforcement
of optical imaging and major technology trends**

Prof. Dr. Michael Totzeck

Carl Zeiss AG, Corporate Research and Technology, Oberkochen, Germany

Thursday, 13.10.2022, 16:00

Lecture Hall V4.01, Pfaffenwaldring 4, 70569 Stuttgart

Abstract: Optics and photonics have - as major enabling technologies - a huge influence on the technology landscape of our time. Digitalization, for instance, would be impossible without optical lithography with EUV lithography as the youngest offspring. However, at the same time computational imaging and machine learning continue to disrupt optics by enabling new functionalities and expanding the application space. Autonomous driving, smartphone sensors and augmented reality glasses ask for ultracompact optics with high functionality. This spurs developments like photonic integrated circuits, 3d-printed μ -optics, tunable and holographic optics. In short: There is a mutual reinforcement of major megatrends and optics and photonics. There is no reason to assume that this positive feedback-loop has ended. On the contrary, this development accelerates as the intense research on quantum technology demonstrates.

Curriculum Vitae: Michael Totzeck received his PhD in physics from Technische Universität Berlin in 1989. After heading the group on high-resolution microscopy at the University of Stuttgart, he joined ZEISS in 2002. He is a Fellow at ZEISS and honorary professor at the University of Konstanz. His research interests include all kinds of innovations in optics, particularly imaging, metrology, lithography, quantum technology and digitalization.

SPIE Student Chapter University of Stuttgart: The University of Stuttgart SPIE Student Chapter was established in February 2018 at the Institute of Applied Optics (ITO). The fundamental idea of our foundation is to establish a network for the students who work in optics/photonics research facilities at the University of Stuttgart. This includes students from various fields including physics, mechanical, electrical, medical and photonic engineering. We organize several occasional meetings throughout the year to exchange opinions on optics-concerned topics and present the newest research results.

Contact Information:

Univ. Stuttgart SPIE Student Chapter
Institut für Technische Optik (ITO), University of Stuttgart, Pfaffenwaldring 9, 70569 Stuttgart Germany
kontakt@spie.hg-stuttgart.de