

## **SAOT Winter Academy**

Munich, February 10<sup>th</sup>-14<sup>th</sup>, 2025

### **Course A: Quality Assessment in Additive Manufacturing of Polymers**

**Course leader: Dr. Sebastian-Paul Kopp**

**Topic: Photonics in Production and Process Technology**

This course offers a comprehensive exploration of specific quality characteristics for additively manufactured components. Emphasizing the importance of manufacturing quality in polymer additive manufacturing processes, the course includes practical applications of Fused Filament Deposition (FDM) and Powder Bed Fusion of Polymers using Laser Beam (PBF-LB/P). Participants will collaboratively develop and apply effective analytical tools tailored for specific component requirements, enhancing their ability to assess and ensure quality in additive manufacturing. The concepts and techniques developed in this course aim to have a high industrial relevance and can be transferred to a huge variety of other manufacturing processes.

### **Course B: OPTEC**

**Course leader: Dr. Martin Hohmann**

**Topic: English version of OPTEC lecture (Basics of Optics according to SAOT Credit Point System)**

This course provides an introduction to the fundamental principles of optics, focusing on the behavior of light and its interactions with matter. Key topics include reflection, refraction and the formation of images by lenses and mirrors. The course also covers the fundamentals of wave optics, including interference, diffraction, birefringence and polarization, and the practical applications of these concepts.