



University
of Basel

Department of
Biomedical Engineering



Seminar Series:

Latest Breakthroughs in Biomedical Engineering Research

Location: DBE Science Lounge, Hegenheimermattweg 167C, 4123 Allschwil

Date & Time: Thursday 22.10.2026 | 16:30 – 17:30

Host: Dr. Arsham Hamidi

Tailored Light Sheet Microscopy for Live and Cleared Tissue Imaging

Mostafa Aakhte

Multiscale Biology, Department of Biology and Psychology, University of Göttingen, Göttingen, Germany

Abstract

Many questions in biology require imaging at more than one scale: subcellular detail in a living embryo, and the whole organ it later becomes. Light-sheet fluorescence microscopy is the method of choice for both, because it illuminates only the plane being recorded, keeping samples alive and volumes fast to acquire. This calls for a modular light-sheet microscope that spans subcellular structures to centimeter-scale specimens, tunable in resolution and adaptable across refractive indices to meet a broad range of imaging requirements.

Biosketch

Mostafa Aakhte is a postdoctoral researcher in the Huisken Lab at the University of Göttingen, where he leads the development of a new generation of light-sheet fluorescence microscopes for live and cleared tissue imaging, focusing on imaging large samples at isotropic resolution. He received his PhD in bio-optics from the University of Kassel in 2021, where he developed digital light-sheet systems with beam-shaping capabilities, and holds a Master's degree in photonics from IASBS in Iran, where he worked on structured light and digital holography.