universität innsbruck

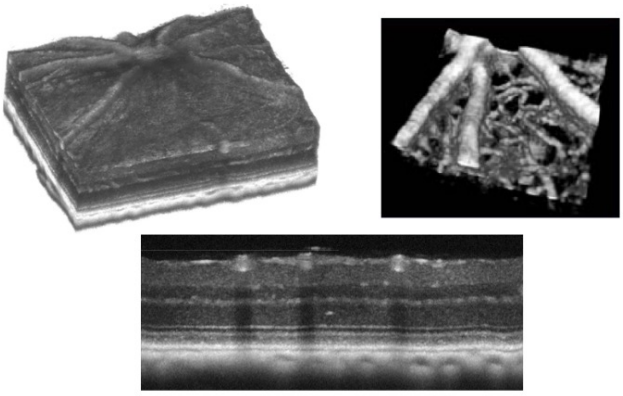
Innsbruck Physics Colloquium

Bernhard Baumann

Center for Medical Physics
and Biomedical Engineering,
Medical University of Vienna, Austria

Biomedical Imaging with Optical Coherence Tomography

Optical coherence tomography (OCT) is an imaging technology providing three-dimensional visualizations of biological tissues. Based on interferometry of low-coherent light, OCT achieves micrometer-scale optical resolution and performs non-invasive, cross-sectional and volumetric imaging in real-time. During the past three decades, OCT has become a routine imaging technology for clinical diagnostics of eye diseases and also found applications in endoscopy and neuroimaging. While OCT has emerged as a standard clinical tool, its technological development is a vivid field of research in biomedical optics.
In this Innsbruck Physics Colloquium talk, Bernhard Baumann will present an overview of the technological principles underlying OCT ranging from the basics of interferometric signal detection to the formation of multi-dimensional image data. He will showcase major OCT applications and discuss current topics in OCT research focusing on advanced contrast mechanisms and quantitative measurements of tissue properties.



Tuesday, 25.06.2024, at 16:30 h, HS C (Technik)

Innsbruck Physics Colloquium,
Organisation: K. Erath-Dulitz, H.-C. Nägerl, T. Schrabback