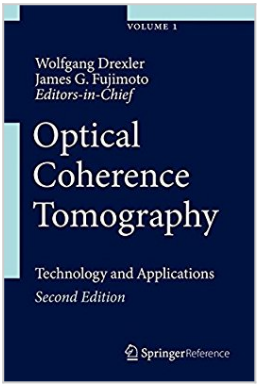

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Optical coherence tomography (OCT) is the optical analog of ultrasound imaging and is a powerful imaging technique that enables non-invasive, in vivo, high resolution, cross-sectional imaging in biological tissue. Between 30 to 40 Million OCT imaging procedures are performed per year in ophthalmology. The overall market is estimated at more than 0.5 Billion USD.
A new generation OCT technology was developed, dramatically increasing resolution and speed, achieving in vivo optical biopsy, i.e. the visualization of tissue architectural morphology in situ and in real time. Functional extensions of OCT technology enable non-invasive, depth resolved functional assessment and imaging of tissue.
The book introduces OCT technology and applications not only from an optical and technological viewpoint, but also from the biomedical and clinical perspective. This second edition is widely extended and covers significantly more topics then the first edition of this book. The chapters are written by leading international research groups, in a style comprehensible to a broad audience. It will be of interest not only to physicists, scientists and engineers, but also to biomedical and clinical researchers from different medical specialties.

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Editorial Review

Review

"Optical Coherence Tomography (OCT) is an exciting, comprehensive, perspicuous and highly recommended book that describes the theory, the instrumentation and the disparate applications of OCT. … The theory and the instruments are fully described, the multitude of multicolored figures are clear, and the references are extensive … ." (Barry R. Masters, Optics and Photonic News, January, 2016)

From the Back Cover

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About the Author

Wolfgang Drexler received his MS and PhD in Electrical Engineering in 1991 and 1995, respectively, at the Technical University of Vienna, Austria. From 2006 to 2009 he was a Full Professor of Biomedical Imaging at the School of Optometry and Vision Sciences at Cardiff University, Wales, UK. Since 2010 he is an Honorary Distinguished Professor at Cardiff University, UK. Since October 2009 he is a Full Professor of Medical Physics and the Head of the Center for Medical Physics and Biomedical Engineering at the Medical University of Vienna, Austria and is also Director of the Christian Doppler Laboratory for Laser Development and their Application in Medicine since 2011.

He spent 2 years at the Massachusetts Institute of Technology (MIT), Cambridge, USA, received the Austrian START Award from the Austrian Science Fund in 2001, the COGAN Award from ARVO in 2007, the Fear Memorial Award in 2008, the Gabriel Coscas Medal in 2009, the EVER Acta Silver Medal in 2010, the DOG's Innovator's Award in 2011 as well as the Edridge Green Medal from The Royal College of Ophthalmologists in 2012.

He is a member of the Austrian Academy of Science and has published more than 160 publications (including Nature Medicine and PNAS) in peer reviewed journals and is first, co-author or corresponding author of more than 400 conference proceedings or abstracts resulting in a h-index of 49. His group's publications have been cited more than 7700 times in the last 10 years with more than 900 citations in years 2008, 2010 and 2011. He is (Co)Editor of 11 books, including "Optical Coherence Tomography: Technology and Applications" (2008). Wolfgang Drexler gave more than 160 invited or keynote talks since 2000 and has accomplished more than € 9.4 million research grant income in the last decade.

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