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Nota di contenuto	Introduction: Enhancing Detection and Early Cancer Recognition with Multimodal Optical Imaging and Spectral Analysis -- Malignant tissue optics -- Optical clearing of biological tissues: prospects of application for multimodal cancer diagnostics -- Multiparametric analysis of tumor using microscopic fluorescence imaging -- NIRS for brain cancer detection -- Exhaled air analysis using wideband wave number tuning range infrared laser photoacoustic spectroscopy -- Multispectral and multimodal fiber sensing in oncology -- Diagnostics of pigmented skin tumors based on laser-induced autofluorescence and diffuse reflectance spectroscopy -- Raman-based molecular imaging and analytics, Surface-enhanced Raman spectroscopy for cancer diagnostics, Raman/CARS/TPEF/SHG multimodal imaging as a pathological screening tool -- In vivo Multimodal Optical Biopsy of Skin Cancer -- Raman hyperspectroscopy and advanced statistics for cancer differentiation -- Intraoperative brain cancer detection with Label-Free Multimodal Optical Spectroscopy -- 3D confocal Raman and two-photon microscopy imaging of the skin -- Multimodal Optical Imaging for Cancer Detection -- Multidimentional and Multilevel Imaging: towards 3D histopathology -- Multimodal OCT for malignancy imaging -- Multimodal texture analysis of OCT tumor images -- Hyperspectral imaging and cancer detection -- Multimodal Deep Imaging using SORS

	and OCT: for precise cancer boundary detection -- FLIM imaging combined with MRI -- Terahertz spectroscopy of human brain tumor.
Sommario/riassunto	This book provides an in-depth description and discussion of different multi-modal diagnostic techniques for cancer detection and treatment using exact optical methods, their comparison, and combination. Coverage includes detailed descriptions of modern state of design for novel methods of optical non-invasive cancer diagnostics; multi-modal methods for earlier cancer diagnostic enhancing the probability of effective cancer treatment; modern clinical trials with novel methods of clinical cancer diagnostics; medical and technical aspects of clinical cancer diagnostics, and long-term monitoring. Biomedical engineers, cancer researchers, and scientists will find the book to be an invaluable resource. Introduces optical imaging strategies; Focuses on multimodal optical diagnostics as a fundamental approach; Discusses novel methods of optical non-invasive cancer diagnostics.