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Nota di contenuto	Clinical and therapeutic approach to functional oncological imaging: Cancer biology: What's important for imaging -- Imaging biomarkers in oncology as surrogate endpoints in clinical trials -- Role of functional-molecular imaging in oncology -- Radiotherapy and imaging -- New therapies and functional-molecular imaging -- Bioinformatics for cancer imaging. Imaging of cancer hallmarks: Imaging of angiogenesis -- Imaging of tumor metabolism: MR spectroscopy -- Imaging of tumor metabolism: 18-FDG PET -- Imaging of tumor metabolism: PET with other metabolites -- Imaging of hypoxia on PET -- Imaging of hypoxia on MRI. Functional imaging techniques in clinical use: Functional imaging in assessing and monitoring of treatment response -- Diffusion-weighted MR imaging -- Perfusion CT -- Perfusion MRI -- DCE-US: Evaluation of angiogenesis -- Spectroscopy in cancer -- Hybrid imaging: PET-CT and PET-MRI -- Dual and spectral energy CT: oncological applications -- US elastography: applications in tumors. Molecular imaging techniques in clinical use and in research: New molecular and functional imaging techniques -- Multiparametric imaging.
Sommario/riassunto	In the new era of functional and molecular imaging, both currently available imaging biomarkers and biomarkers under development are expected to lead to major changes in the management of oncological patients. This well-illustrated two-volume book is a practical manual on the various imaging techniques capable of delivering functional

information on cancer, including preclinical and clinical imaging techniques, based on US, CT, MRI, PET and hybrid modalities. This first volume explains the biophysical basis for these functional imaging techniques and describes the techniques themselves. Detailed information is provided on the imaging of cancer hallmarks, including angiogenesis, tumor metabolism, and hypoxia. The techniques and their roles are then discussed individually, covering the full range of modalities in clinical use as well as new molecular and functional techniques. The value of a multiparametric approach is also carefully considered.