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Nota di contenuto	Introduction -- Ultrasound in Neuroimaging -- X-Ray -- Basics of Computed Tomography -- CT Angiography -- CT Perfusion -- Flat Panel CT/ Cone Beam CT -- Dual Energy CT -- Photon counting CT -- Basics of Magnetic Resonance Imaging -- MR Angiography -- Perfusion Techniques -- Susceptibility Weighted Imaging -- Diffusion weighted Imaging (DWI) -- Diffusion tensor imaging -- Diffusion kurtosis imaging Technical background and clinical applications -- IVIM Technical background and clinical applications -- MR Spectroscopy -- MTR -- Functional MRI -- PET in Neuroimaging -- EEG -- Radiomics –

	Outlook into the future.
Sommario/riassunto	This book provides a concise overview of emerging technologies in the field of modern neuroimaging. Fundamental principles of the main imaging modalities are described as well as advanced imaging techniqes including diffusion weighted imaging, perfusion imaging, arterial spin labeling, diffusion tensor imaging, intravoxel incoherent motion, MR spectroscopy, functional MRI, and artificial intelligence. The physical concepts underlying each imaging technique are carefully and clearly explained in a way suited to a medical audience without prior technical knowledge. In addition, the clinical applications of the various techniques are described with the aid of illustrative clinical examples. Helpful background information is also presented on the core principles of MRI and the evolution of neuroimaging, and important references to current medical research are highlighted. The book will meet the needs of a range of non-technological professionals with an interest in advanced neuroimaging, including radiology researchers and clinicians in the fields of neurology, neurosurgery, and psychiatry.