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Sommario/riassunto	<p>The development of science has led to the emergence of many new modern materials, which also require more advanced tools for their characterization and analysis. NMR and MRI are certainly among such tools, also due to their continuous development, which has made them more powerful, versatile, and sensitive. With these advances, these two techniques have been able to address many open problems associated with the emergence of new materials. This reprint comprises a collection of advanced NMR and MRI techniques and methods, together with a demonstration of their application to the target materials for which they were designed and optimized. These are presented in 25 original, peer-reviewed articles for the Special Issue in the MDPI journal Molecules. The topics covered include MR methods in pharmaceutical research, NMR in cement research, MR methods in wood research, diffusion in materials, characterization of materials by NMR relaxometry, NMR spectroscopy of materials, and MRI of materials.</p>