Special Issue

Nuclear Magnetic Resonance (NMR) and Magnetic Resonance Imaging (MRI) in Biomedicine

Message from the Guest Editors

Since the discovery of nuclear magnetic resonance (NMR) signals in 1945, scientists have devoted themselves to the related fields of NMR, helping this technology become a powerful tool in research fields such as physics, chemistry, biology, geology, and medicine. Using the NMR theory, through the frequency differences caused by the gradient field over the space, the position and type of the nuclei constituting the object can be detected. As a result, the internal structure image of the object can be drawn accordingly, this theory having contributed to the revolutionary clinical diagnostic tool, magnetic resonance imaging (MRI). In the decades that followed, from the discovery of NMR phenomena to the maturity of MRI technology, the NMR research field has won six Nobel Prizes in three fields (physics, chemistry, physiology, or medicine), showing its far-reaching impact and importance. In addition to the applications in structure, NMR and MRI have also developed many applications in the field of biomedicine, areas also of interest in this Special Issue, "NMR and MRI in Biomedicine".

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