

Special Issue

Advanced Neuroimaging in Fetal, Neonatal, Infant and Child Health

Message from the Guest Editors

The fetal and neonatal period is an important time for brain growth and development, underpinning future cognitive potential. Neuroimaging techniques provide crucial insight into the understanding of structural and functional brain development, as well as a psychopathological basis in pediatrics. Of note, advanced magnetic resonance imaging (MRI) techniques and near-infrared spectroscopy (NIRS) have shown sufficient and improved accuracy in the long-term prognosis of high-risk neonates and infants. In particular, machine-learning algorithms applied to neuroimaging data analysis show promise in identifying microstructural changes associated with pathological processes for the onset and explanation of symptoms of neurodevelopmental disorders. This Special Issue aims to summarize the current state of research on the application of state-of-the-art advances in MRI and NIRS in fetal, neonatal and infant health to improve knowledge of brain development.

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