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Sommario/riassunto An important aspect of neuroscience is to characterize the underlying

connectivity patterns of the human brain. Over the past few years, researchers have demonstrated that by combining a variety of different neuroimaging technologies (e.g., structural MRI, diffusion MRI and functional MRI) with sophisticated analytic strategies such as graph theory, it is possible to non-invasively map the patterns of structural and functional connectivity of human whole-brain networks. With these novel approaches, many studies have shown that human brain networks have non-random properties such as modularity, smallworldness and highly connected hubs. Importantly, these quantifiable network properties change with age, learning and disease. Moreover, there is growing evidence for behavioral and genetic correlates. Network analysis of neuroimaging data is opening up a new avenue of research into the understanding of the organizational principles of the brain that will be of interest for all basic scientists and clinical researchers. Such approaches are powerful but there are a number of challenging issues when extracting reliable brain networks from various

challenging issues when extracting reliable brain networks from various imaging modalities and analyzing the topological properties, e.g., definitions of network nodes and edges and reproducibility of network

analysis. We welcome contributions related to the state-of-the-art methodologies of brain connectivity and the applications involving development, aging and neuropsychiatric disorders such as Alzheimer's disease, schizophrenia, attention deficit hyperactivity disorder and mood and anxiety disorders. It is anticipated that the articles in this Research Topic will provide a greater range and depth of provision for the field of imaging brain networks.