

New Insights from MRI Research in NBIA.

In this talk, recent advancements in MRI research related to Neurodegeneration with Brain Iron Accumulation (NBIA) will be explored. The focus will be placed on innovative MRI techniques such as quantitative susceptibility mapping, advanced iron-sensitive imaging, and ultra-high field imaging. It will be discussed how these methods enhance understanding of iron deposition patterns in NBIA. Insights from non-NBIA disorders will be used to understand the relationship between iron deposition and progression of clinical symptoms.

Beyond iron-sensitive imaging, other MRI modalities that contribute to the knowledge of NBIA will be delved into, including Diffusion Tensor Imaging (DTI), Magnetic Resonance Spectroscopy (MRS), and quantitative morphometry. These techniques will be highlighted for their ability to reveal (micro)structural changes in brain matter and detect metabolic abnormalities accompanying neurodegenerative processes. Early diagnosis and monitoring of disease progression are potentially being transformed through these techniques.