

Innovative Magnetic Resonance Imaging for the diagnosis of Multiple Sclerosis

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Thursday December 12th, 14h
[CIBM Seminar Room, EPFL campus, Station 6 CH F1 614 Lausanne](#)

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Abstract: Multiple sclerosis (MS) is a complex disease, and its clinical and radiologic heterogeneity often make its diagnosis challenging and may result in misdiagnosis. Therefore, there is a crucial need for a highly specific and sensitive biomarker for MS. The central vein sign (CVS) has recently been proposed as a novel imaging biomarker to improve the accuracy and speed of MS diagnosis. In this talk, I will first introduce the concept of CVS in MS and its discovery using 7-tesla MRI. Then, I will present innovative MRI techniques developed at 3-tesla for enabling the investigation of the CVS in a clinical setting, and I will provide an update of the evidence from recent single-center and multi-center clinical studies on the diagnostic value of the CVS. Finally, I will discuss ongoing technological developments aimed at integrating the CVS in the clinical practice.



Biography: Dr. Sati is an experienced preclinical and clinical scientist working on the discovery, development and validation of innovative imaging biomarkers for advancing precision medicine in neurological diseases. His research currently focuses on developing advanced MRI techniques at clinical field (3T) and ultra-high-field (7T) strengths for improving the diagnosis and prognosis of patients suffering from multiple sclerosis (MS). He is also working on preclinical models of MS to investigate novel therapeutics targeting neuroinflammation and neurorepair.