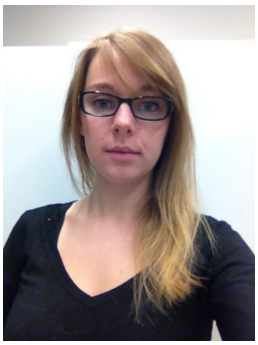
Séminaire externe

" Manganese enhanced MRI (MEMRI): understanding Mn cell accumulation, Mn transport and Mn synaptic transmission ."



Manganese (Mn) Enhanced Magnetic Resonance Imaging (MEMRI) can be used for different applications such as tracing neuronal connections or functional imaging. Indeed, Mn is a Ca analogue and it can account for both anterograde and retrograde axonal transport. However, mechanisms of Mn cell accumulation, Mn transport and Mn synaptic transmission are still unclear. To address these issues, I first undertook a study coupling MRI and synchrotron microscopy to study Mn behavior *in vivo* and *in vitro*. Thus, I characterized the cellular and subcellular Mn distributions. Moreover, the effect of Mn on brain metabolism was studied by proton HRMAS NMR. In order to performed high resolution MRI in a live organism to study Mn synaptic transmission, I'm currently developing a new imaging technique of organotypic hippocampus slice culture. Slices are maintained alive in an open chamber to allowed slice manipulation (e.g. injection, microscopy, electrophysiology and MRI). Besides the fact that this slice culture should enable the study of Mn mechanisms, it is also a promising MRI method for studying neurodegenerative diseases.

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Invitée par Eva Jakab Toth

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Salle de conférence du CBM