TRANSLATIONAL imaging center bern

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UNIVERSITÄT BERN

TIC International Seminar

Wednesday, September 2nd, 16:00

Location: Auditorium O2.211, sitem-insel, Freiburgstrasse 3, Bern
Broadcast on zoom: https://unibe-ch.zoom.us/j/61079804322

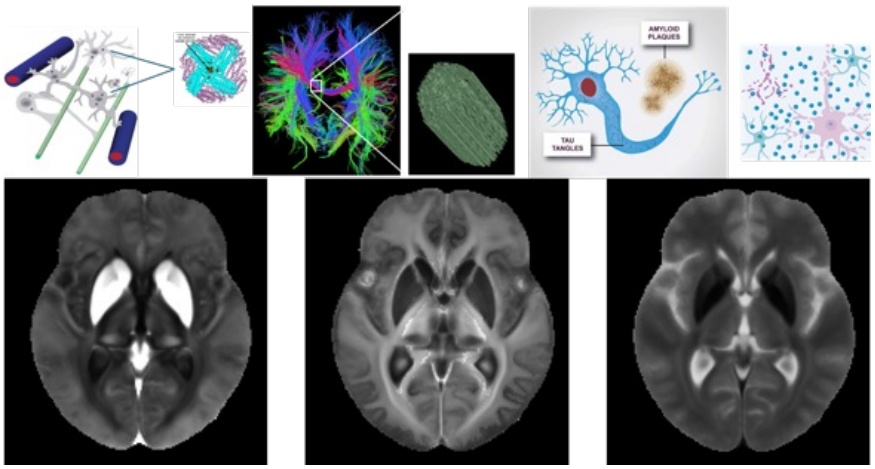
The seminar is followed by an Apéro to continue discussions

Quantitative Susceptibility Mapping in Neuroinflammation, Neurodegeneration, and Alzheimer Immunotherapy

Prof. Dr. Yi Wang

Cornell University, New York, USA

Quantitative susceptibility mapping (QSM) advances MRI assessment of tissue magnetic susceptibility from qualitative detection of hypointense blooming artifacts to quantitative measurement of susceptibility distributions. By analyzing standard gradient-echo MRI data, QSM provides sensitive and specific information related to molecular electron cloud properties. The major susceptibility sources in brain tissue include paramagnetic iron, anisotropic diamagnetic myelin, isotropic diamagnetic proteins, and free water, all of which play important roles in cellular function and pathology. QSM therefore offers a powerful approach for studying diseases involving neurodegeneration, inflammation, and hemorrhage. This lecture will review QSM techniques and their applications to the assessment of brain iron, myelin, proteins, and free water in neuroinflammatory and neurodegenerative disorders, including multiple sclerosis and dementia. It will also discuss the use of QSM for evaluating cerebral microbleeds in the context of Alzheimer immunotherapy.



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