Translational Imaging Center, Bern:

Currently Available Methods and Ongoing Projects

Lecture series with speakers from Bern organized by the Translational Imaging Center @ sitem-insel in Bern on current methods and applications at our center

MRI on a diet: new approaches for quantitative fat-resolved MRI

Prof. Jessica Bastiaansen, PhD

Universitätsinstitut für Diagnostische, Interventionelle und Pädiatrische Radiologie (DIPR)

https://wp.unil.ch/cvmr/jessica-bastiaansen/

Although the presence of bright fat signal typically limits the visualization of small anatomical structures in MRI, the quantification of fat in living tissues may provide prognostic information in several pathologies. The limitation of current MRI techniques is that quantitative information about fat is confounded by the presence of water, by tissues carrying different relaxation time components, and by magnetic field inhomogeneities that induce signal asymmetries. It is often impossible to untangle the different contributions to the measured signal in acceptable scan times, especially in the presence of motion.

Recently we discovered that signal asymmetries observed in phase-cycled MRI acquisitions can be used to generate artifact-free quantitative maps of water and fat. Since phase-cycling can also be applied to extract T1 and T2 simultaneously, it is a very promising technique for artifact-free multi-tissue property quantification at a range of magnetic field strengths.

In this seminar I will give an overview of recently developed acquisition strategies that tackle some of the aforementioned challenges. I will also discuss the planned projects outlined in my Eccellenza Fellowship.

Thursday, December 02 2021, 17:00

The lecture will be held as a zoom meeting, please connect using:

https://unibe-ch.zoom.us/j/61954796127?pwd=b25nSWVIVi9PWlV4Vlp3NXpMdjRQdz09

and **do spread the word** to anybody potentially interested. *(for further info: bernd.jung@insel.ch)*