



Nanoscale Organisation
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**MRI Imaging using
Chemical Exchange Saturation Transfer (CEST) Methods**

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Abstract

Magnetic Resonance Spectroscopy (MRS) is a non-invasive technique that can detect metabolic changes in the brain to study and diagnose disease in humans. Despite its excellent chemical and metabolic specificity, MRS has had little impact on routine clinical practice. Further, since many clinical MRI scanner setups are geared towards the use of water protons for high-resolution imaging, heteronuclear applications have primarily been limited to research use. Exchange-based MRS and MRI methods such as chemical exchange saturation transfer (CEST) offer increased sensitivity but maintain high chemical and metabolic specificity. Also, since the CEST method is based on detecting the large pool of water protons, CEST MRI can typically be run on most MRI scanners.

This talk will give an overview of CEST imaging and detail some novel techniques recently developed by our group. Further, I will talk about some preliminary results from CEST studies in patients at 7T.

Profile

Dr Nirbhay Yadav is an Instructor in the Department of Radiology at The Johns Hopkins University School of Medicine and The Kennedy Krieger Institute. Dr Nirbhay Yadav completed his PhD at the University of Western Sydney under the supervision of Prof. William S. Price. In 2010, he moved to The Johns Hopkins University School of Medicine to take up a Post-Doctoral Fellowship in Radiology under the supervision of Prof. Peter van Zijl. His current research interests include the development chemical exchange based MRI methods and the application of these methods in animal models and human patients with cancer, stroke, and neurodegenerative diseases.

Staff and students at all levels are welcome to attend.

Venue and Time:

This talk will be held on Wednesday 31 August at 2 pm at the Campbelltown Campus in Building 21, Lecture Theatre 5 (CA.21.G.03).

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