

**Title: Magnetic Resonance Imaging (MRI) using Chemical Exchange Saturation Transfer (CEST)**

**Speaker:**

Dr. Jerry S. Cheung  
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**Date:** Thursday, 16 December 2010

**Time:** 5:00 pm

**Venue:** Room 603, Chow Yei Ching Building

**Abstract:**

Chemical exchange saturation transfer (CEST) MRI is an advanced and versatile imaging technique for measuring microenvironment properties via dilute labile protons which are in exchange with bulk water. CEST MRI offers an enormous gain in sensitivity due to its indirect detection mechanism that allows monitoring dilute labile proton groups and thereby biological microenvironment properties including pH and temperature. In particular, amide proton transfer (APT) MRI, a specific form of CEST MRI that probes pH-dependent amide proton exchange from endogenous proteins and polypeptides, offers a non-invasive pH mapping technique for imaging ischemic acidosis. Once fully developed, CEST MRI holds great promise to augment conventional MRI methods for a broad range of pre-clinical and clinical applications.

**Biography of the speaker:**

Dr. Cheung received his B.Eng. (Medical Engineering) and Ph.D. degrees from the University of Hong Kong in 2005 and 2009, respectively. His research focused on magnetic resonance imaging (MRI) using novel contrast agents and abdominal diffusion imaging during his Ph.D. study. Upon graduation, Dr. Cheung has moved to Boston and joined, as postdoctoral research fellow, the Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital (MGH) and Harvard Medical School. Dr. Cheung's current research interests are advanced imaging techniques including magnetization transfer (MT) and chemical

exchange saturation transfer (CEST) MRI for better characterization of acute ischemic stroke and brain tumor.

**Organizer:** Prof. E.X. Wu