The Singapore Bioimaging Consortium (SBIC)
presents a seminar

on

"Real-time MRI – A New Horizon"

Speaker: **Prof Jens Frahm**
Director of Biomedizinische NMR Forschungs GmbH
Max-Planck-Institute
Host : **Dr Philip Lee**
Date : **Thursday, 18 August 2016**
Time : **11.00am – 12.00noon**
Venue : **SBIC Seminar Room**
11 Biopolis Way
Level 2, Helios Building, Singapore 138667
(Please enter via Level 1)

Abstract

This lecture presents recent advances towards real-time magnetic resonance imaging (MRI) which result in high-quality image series of dynamic processes with measuring times of only 10 to 40 milliseconds. The acquisition technique employs radially encoded gradient-echo sequences with up to 30-fold data undersampling. Image reconstruction emerges as the iterative solution of a nonlinear inverse problem which is accomplished by a bypass computer fully integrated into a commercial MRI system. Apart from a brief technical description, the talk will focus on applications to oropharyngeal functions (e.g., speaking, brass playing, swallowing), cardiac function, blood flow and extensions to quantitative parametric mapping. In general, real-time MRI techniques are comfortable to the patient, provide new diagnostic opportunities (e.g., immediate physiologic responses to stress or exercise), are insensitive to irregular motion (e.g., patients with arrhythmia), and promise a revitalization of "interventional" MRI procedures.

About the Speaker

Prof Jens Frahm is the Director of Biomedizinische NMR Forschungs GmbH (non-profit) at the Max-Planck-Institute for biophysical Chemistry in Göttingen, Germany. Prof Frahm's research is devoted to the methodological development of magnetic resonance imaging (MRI) and the advancement of MRI in science and medicine. His publications include more than 440 articles, patents, and book chapters (Hirsch index: 79, since 2011: 49). For his ground-breaking work, Prof Frahm received the European Magnetic Resonance Award, the Gold Medal of the International Society for Magnetic Resonance in Medicine, the Karl Heinz Beckurts-Award for Technology Transfer, the State Award of Lower Saxony, the Research Award of the Sobek

Foundation for Multiple Sclerosis and the Science Award of the Foundation for German Science. Prof Frahm is a member of the Göttingen Academy of Sciences.

Admission is free and all are welcome ---