The Singapore Bioimaging Consortium (SBIC)
presents a seminar
on

"My research story: From MRS to MRI"

Speaker: **Dr Hong Sungtak**
Philips Japan
Host : **Dr Lee Kuan Jin**
Date : **Monday, 16 October 2017**
Time : **2.00pm – 3.00pm**
Venue : **SBIC Seminar Room**
11 Biopolis Way
Level 2, Helios Building, Singapore 138667
(Please enter via Level 1)

Abstract

This seminar is aimed to present my MR research history covering preclinical MRS studies to clinical PET/MR studies. In spite of technical originality of MRS, the common application of this technique is still not achievable due to longer measurement time brought by low metabolite concentrations. Firstly, I will show how to address those problems in *in vivo* ^{1}H MRS of the rat brain by minimizing echo time (TE) at the ultra-high field strength of 16.4 T. Subsequently the development of a new *ex vivo* assay, the combination of 3D MRSI with focused-beam microwave irradiation (FBMI), will be presented to demonstrate the feasibility of mapping quantitative metabolic flux rates throughout the rat brain. Lastly, two on-going research works in the clinical PET/MR scanner will be presented to show 1) an advanced analysis method to improve diagnostic accuracy and 2) the development of a fast MRI technique allowing substantial scan time reductions in this hybrid modality.

About the Speaker

Sungtak Hong earned a B.Eng in Ship Operating Systems Engineering from Korea Maritime and Ocean University, South Korea and an M.S in Medical Physics and Biomedical Engineering from The Catholic University of Korea, South Korea. He did his Ph.D. work at Max-Planck Institute for Biological Cybernetics in Tuebingen, Germany, under the guidance of Rolf Pohmann. In 2011, he received his Ph.D. from University Tuebingen, Germany, for investigating the neurochemical acquisition of the rat brain with *in vivo* ^{1}H NMR spectroscopy at 16.4 T. Subsequently he became a

postdoctoral associate in Magnetic Resonance Research Center at Yale University concentrating primarily on the calculation of metabolic fluxes rates with 3D MRSI technique under the guidance of Robin A. de Graaf. In 2014, he started an industrial career at Philips Japan, where he is currently an on-site clinical scientist working with PET/MR scanner at Kyushu university hospital. His research interests include MRI/S pulse sequence design, development of MRI/S analysis programs and their application covering preclinical studies to clinical ones.

Admission is free and all are welcome