



The Singapore Bioimaging Consortium (SBIC)  
presents a seminar

on

**"Exploring Routes to enhance Sensitivity and Specificity of MRI Probes"**

**Speaker: Prof Silvio Aime**  
**University of Torino**  
**Italy**  
**Date : Wednesday, 14 Aug 2013**  
**Time : 11.00am – 12.00pm**  
**Venue : Aspiration Theatre**  
**30 Biopolis Street**  
**Level 2M, Matrix Building**

**Abstract**

The possibility of exploiting the superb anatomical resolution of MRI continues to make this modality highly desirable for Molecular Imaging applications in spite of the low sensitivity of the currently available contrast agents. Whereas chemists have tackled this issue by designing novel structures endowed with enhanced sensitivity, important achievements have also been reached by using nanocarriers (e.g. apoferritin, LDL or liposomes, etc.) able to deliver a large number of paramagnetic agents at the targeting sites. This approach is bringing relevant insights to the emerging field of imaging-guided drug delivery ("theranostics"). Besides paramagnetic relaxation systems (e.g. Gd(III) or Mn(II) complexes), two new classes of frequency-encoding probes, namely the CEST agents (CEST= Chemical Exchange Saturation Transfer) and the class of hyperpolarized molecules, have been considered as powerful tools for Molecular Imaging applications. The use of frequency-encoding agents has opened the interesting perspective of detecting more than one agent in the same anatomical region. Moreover, hyperpolarized molecules have the potential for being a real breakthrough as diagnostic agents reporting on cellular metabolism and transport across cellular membranes.

**About the Speaker**

Silvio Aime graduated from the University of Turin in 1971. After a stint at the University of East Anglia (RK Harris group), he returned to Turin in 1974 where he spent his entire career. He is currently Professor of Chemistry at the Dept. of Molecular Biotechnologies and Health Sciences and Head of the Centre of Molecular Imaging. Main research interests: NMR/MRI, Molecular Imaging, probes development. He is the author of about 550 publications and 26 patents and member of the

Editorial Board of several journals, co-Editor-in-chief of Contrast Media & Molecular Imaging. Prof Aime has the following awards

1. 1987: Nasini Medal from the Italian Chemical Society;
2. 1996: Medal from the Italian NMR Discussion Group;
3. 2000: Sapio Prize;
4. 2004: European Magnetic Resonance Foundation Award;
5. 2010: Award from the European Soc. Magnetic Resonance in Medicine and Biology;
6. 2010: Doctor honoris causa from the University of Debrecen;
7. 2011: Honorary Doctorate from the Technology University Eindhoven;
8. 2011: Hans Fisher Senior Fellow, Institute of Advanced Study, Technical University Munich.

***--- Admission is free and all are welcome ---***