



*Special Evening Symposium*

# Intellectual Innovation in MRI

driving enhanced diagnosis,  
patient management & treatment.

**Tuesday, May 10th, 2016 6:30pm-8:30pm**

**Level 6, Hall #606** Suntec Singapore Convention  
& Exhibition Center

**Chair**

***Choie Choie Tchoyoson Lim, M.D., Ph.D.***

Associate Professor, National Neuroscience Institute, Neuroradiology,  
Senior Consultant, MBBS, MMed (Diagnostic Rad), FRCR (Diagnostic Rad)(UK), FAMS

**Lecture  
1**

**Using 4D ASL MRA for delineation of AVM nidus for  
stereotactic radiotherapy treatment planning**

***Joost P. A. Kuijer, Ph.D***

Medical Physicist, Department of Physics and Medical Technology,  
VU University Medical Center, Amsterdam, the Netherlands

**Lecture  
2**

**Reduced Contrast-dose in Stroke  
and Brain Tumor MR imaging**

***Kambiz Nael, M.D.***

Assistant Professor of Radiology in the division of Neuroradiology  
at The Icahn School of Medicine at Mount Sinai, New York, NY, USA

**Lecture  
3**

**State of the Art Clinical Application for Body Imaging  
at Vantage Titan 3T Saturn Gradient**

***Yoshiharu Ohno, M.D., Ph.D.***

General Manager, Advanced Biomedical Imaging Research Center  
Director, Functional and Diagnostic Imaging Research  
Director, Thoracic Imaging  
Professor, Department of Radiology  
Kobe University Graduate School of Medicine

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Lecture  
1

## Using 4D ASL MRA for delineation of AVM nidus for stereotactic radiotherapy treatment planning

*Joost P. A. Kuijer, Ph.D*

Non-contrast enhanced 4D magnetic resonance angiography based on arterial spin labeling (4D ASL MRA) is emerging as a feasible technique for assessment of intradural arteries. Although the spatial resolution of 4D ASL MRA is lower than digital subtraction angiography (DSA), the 3D volumetric nature of the acquisition provides rich details about the shape of the AVM nidus. We currently evaluate the feasibility of frameless stereotactic radiosurgery planning using 4D ASL MRA.

Lecture  
2

## Reduced Contrast-dose in Stroke and Brain Tumor MR imaging

*Kambiz Nael, M.D.*

Dynamic Susceptibility Contrast (DSC) perfusion has been increasingly used in conjunction with other contrast-enhanced MR applications and there is a need for contrast-dose reduction when feasible. In patients presenting with acute ischemic stroke a combination of contrast-enhanced MR angiography (CE-MRA) and DSC perfusion can improve the imaging protocol acquisition speed. For brain tumors, the addition of a dynamic contrast-enhanced (DCE) perfusion to DSC perfusion may provide complementary diagnostic information. Dr. Nael states that Olea Sphere® utilizing Bayesian method provides a viable option for performing DSC perfusion in conjunction with other enhanced sequences, without the need for double-dosing patients, leading to cost reduction, reduced risk of nephrogenic systemic fibrosis or subsequent neuronal tissue deposition.

Lecture  
3

## State of the Art Clinical Application for Body Imaging at Vantage Titan 3T Saturn Gradient

*Yoshiharu Ohno, M.D., Ph.D.*

Although 3 Tesla (3T) MR system has been suggested as having some difficulties for clinical application to body field, many clinicians have tried to apply 3T MR systems and demonstrate its' potentials with new quantitative and qualitative techniques in the last decade. However, the clinical relevance of 3T scanner have not been clearly mentioned as compared with that of 1.5T scanner. Since 2011, Toshiba Medical Systems Corporation has provided a 3T MR scanner, "Vantage Titan 3T", applied many newly developed or improved techniques and sequences, and is continuously demonstrated clinical relevance in not only CNS, but also body fields. In addition, Toshiba starts to provide a new gradient system named as "Saturn Gradient" to "Vantage Titan 3T", for improving its' potential and encouraging clinicians to demonstrate its' utility in routine clinical practice. The concept of "Vantage Titan 3T Saturn Gradient" is unique and ambitious, and will dramatically change 3T MR examinations based on not only clinical, but also academic interests. In this lecture, I will briefly mention about 1) technical improvements of this new 3T scanner with "Saturn Gradient", 2) new clinical evidences for body MR imaging using "Vantage Titan 3T", and 3) future direction of its' clinical applications for not only morphological, but also functional and metabolic applications for body MR imaging.