



The Singapore Bioimaging Consortium (SBIC)
presents a seminar

on

**"Why Do We Measure Cerebral Blood flow, Oxygen, and
Glucose Metabolism? Relationships, Applications,
and Current Issues"**

Speaker: Manouchehr S. Vafaei
University of Copenhagen
Department of Neuroscience and Pharmacology
Denmark
Date : Friday, 2 March 2012
Time : 2.00pm – 3.00pm
Venue : SBIC Seminar Room, 11 Biopolis Way
Level 2, Helios Building
Singapore 138667
(Please use Level 1 entrance)

Abstract

Although the brain weight is 2% of the body mass, it accounts for 20% of the total energy consumed by an average adult human. Study of the relationships among the cerebral blood flow on one hand, and oxygen and glucose supplied to the brain by blood for production of energy on the other hand, has fascinated the neuroscientists for more than a century. Functional brain imaging by PET and MRI has extensively been used to map the regional changes in brain activity. The signal used by both techniques is based on changes in local blood flow and metabolism at rest and activation states. Therefore, the understanding of the neurophysiological basis of these changes will enhance the interpretation of the results produced by these imaging modalities. The present talk will focus on the basic biology/physiology, and regulation of these parameters in the context of their relationships, applications and latest issues. Dr Vafaei will also touch upon the results of our latest line of research and findings regarding these issues.

About the Speaker

Dr Vafaei (an Iranian-Canadian) is an Associate Professor at the Department of Neuroscience and Pharmacology, Faculty of Health Sciences of University of Copenhagen. He has a Master of Applied Science (M.Sc. A.) degree in medical radiation physics from the McGill University in Montreal-Canada (1993) and a Ph.D. degree in Neurological Science also from McGill in Canada (1998). Dr Vafaei has done a fellowship at the NIH in 1999. In 2000, he was hired by Århus University as

an Assistant Professor at the Faculty of Health Sciences (Center of Functionally Integrated Neuroscience and PET Center). In 2009, he moved to Copenhagen and was hired by the University of Copenhagen as an Associate Professor at the Faculty of Health Sciences where he is currently employed. At the current position, he has been assigned the task of spearheading the creation of an integrative neuroscience center with focus on imaging. In this line, a brain dedicated PET scanner (Siemens) as well as a high-resolution small animal MRI scanner (9.4 T Bruker) were purchased. They also intend to add another PET scanner as well as a micro-PET to our imaging facilities in the near future.

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