

# The 8th Brain Science Seminar in Saitama University

Host: Saitama University Brain Science Institute

## Visualizing Columnar Architectures Using High-Field High-Resolution Functional Magnetic Resonance Imaging

### Kang Cheng, Ph.D

RIKEN Brain Science Institute Unit Leader

**Date: June 12th, 2009 (Friday)**

**Time: 16:00 ~ 17:00**

**Place: Daigaku Kaikan 2F meeting room**

**Please join the get-together with Dr. Cheng after the seminar.  
(Donation 300 yen; Students free)**

Inquiries : Takafumi Sakai (TEL 4308)

We will have the Brain Science Seminar once a month. Come out and join us.

## セミナー要旨 **Abstract**

Since its inception early in 1990s, functional magnetic resonance imaging (fMRI) has become one of the most dominant neuroimaging tools for studying human brain functions. High-resolution fMRI, with its improved signal-to-noise ratio and spatial specificity, has strengthened the capability of fMRI and allowed mapping of functional architectures in human brains. In this talk, I will first explain the principle of the blood oxygenation level-dependent (BOLD) effect, upon which most of fMRI experiments are conducted, factors restricting the spatial specificity of the BOLD signal, and measures dealing with these factors. I will then briefly introduce several practical techniques developed using high-field MRI systems for revealing functional architectures in human visual cortices.