

Title: **In Vivo Visualization of Dynamic Cellular Phenotype by Real-Time Intravital Microscopy**

Speaker: **Pilhan KIM Ph.D.**

Associate Professor, KAIST, Korea

(Visiting Associate Professor, IRCMS, Kumamoto University, JAPAN)

Date: **November 22, 2017 (Wednesday)**

Time: 17:30 –

Venue: IRCMS 1F Meeting Lounge



Abstract

Over the recent years, intravital laser-scanning microscopy has demonstrated dynamic 3D visualization of various biological processes in a living subject, *in vivo*. It has been utilized to monitor gene expression, protein activity, drug delivery, cell trafficking, cell interaction, and physiological response to external stimuli in a live animal *in vivo*, which has provided unprecedented insights those were impossible to obtain with conventional microscopy techniques for static 2D conventional *ex vivo* and *in vitro* observation.

In this talk, a full custom-built real-time laser-scanning intravital confocal/two-photon microscopy system for *in vivo* cellular imaging of various organs will be introduced. The imaging system has been extensively optimized for various *in vivo* imaging applications, which can acquire multi-color fluorescence microscopic images from a living animal model in sub-micron resolution in real time. Intravital imaging of various organs including skin, liver, spleen, pancreas, kidney, small intestine, colon, retina, lung, heart, lymph node and bone marrow will be briefly introduced. Subsequently, ongoing studies utilizing the intravital imaging technique to investigate dynamic cellular phenotype and pathophysiology of various human disease will be introduced.

Keyword: Intravital microscopy, *In vivo* imaging, Fluorescence imaging, Confocal microscopy, Two-photon microscopy

◆ Essay / To IRCMS: ircms@jimu.kumamoto-u.ac.jp

Cc: Student Affairs Sec. : iyg-igaku-3@jimu.kumamoto-u.ac.jp

International Research Center for Medical Sciences (IRCMS)



TEL:096-373-6847 FAX:096-373-6869

ircms@jimu.kumamoto-u.ac.jp