

# WAYNE STATE UNIVERSITY

School of Medicine  
Department of Radiology

## The WSU Program for Traumatic Brain Injury Research

presents a Special Topic Seminar

### HANZHANG LU, Ph.D.

Associate Professor, Department of Radiology,  
Johns Hopkins University, Baltimore, MD

## Cerebrovascular Reactivity MRI: Hemodynamic Imaging with Gas Challenges

**Abstract:** Non-invasive imaging of the brain vasculature's ability to dilate or constrict may allow a better understanding of cerebrovascular pathophysiology in various neurological diseases. This presentation will describe an MRI technique to perform vascular reactivity imaging in humans using inhalation of CO<sub>2</sub> and O<sub>2</sub> gases. Potential applications of the technique in aging, vascular and neurodegenerative diseases will be discussed.

**Bio:** Dr. Hanzhang Lu obtained his PhD in Biomedical Engineering at Johns Hopkins University (JHU) in 2004. He received his postdoctoral training at the Center for Biomedical Imaging, New York University Medical Center. He was a faculty of UT Southwestern Medical Center from 2005 to 2014. In 2015, he joined the faculty of Johns Hopkins University School of Medicine. Currently, he is an Associate Professor in the Department of Radiology at JHU. Dr. Lu's research is focused on the development of novel MRI techniques to evaluate the brain's physiology as well as their clinical applications. He is a well-recognized leader in cerebrovascular reactivity research under challenging conditions. His work has been well funded by NIBIB, NIMH, NINDS, and NIA.

**Date:** Friday, March 18, 2016

**Time:** 12:00pm – 1:00pm

**Location:** 3125 Scott Hall – 540 E. Canfield, Detroit, MI

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