



School of Life Sciences
The Chinese University of Hong Kong



Joint Seminar CUHK School of Life Sciences CUHK Department of Biomedical Engineering CNRM

Molecular Imaging, Nanobiotechnology, and Theranostics



Professor Weibo CAI

Vilas Distinguished Achievement Professor of
Radiology and Medical Physics,
University of Wisconsin - Madison, USA

Date: 19 January 2024 (Friday)

Time: 15:30 to 16:30

Venue: Science Center (SC) L3, CUHK

Abstract

The Molecular Imaging and Nanotechnology Laboratory at the University of Wisconsin - Madison (<http://mi.wisc.edu/>) is mainly focused on three areas: 1) development of multimodality molecular imaging agents; 2) nanobiotechnology and its biomedical applications; and 3) molecular therapy of cancer and various other diseases. In this talk, I will present our representative work on molecular imaging and image-guided drug delivery of cancer and other diseases with peptides, proteins, and a variety of nanomaterials. The primary imaging techniques used in these studies are positron emission tomography (PET), photoacoustic tomography (PAT), optical imaging, and magnetic resonance imaging (MRI). Some molecular targets that we have investigated are CD105 (*i.e.* endoglin), PD-1/PD-L1, CTLA-4, CD146, VEGFR, integrin $\alpha_v\beta_3$, among others. The nanomaterials that will be discussed in this presentation may include silica-based nanoparticles, COVID-19 nanovaccines, DNA nanomaterials, micelles, iron oxide nanoparticles, 2-D nanomaterials, hybrid nanomaterials, among others.

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