



Optical Molecular Imaging and Applications

Prof. Liming Nie

Southern Medical University



WEDNESDAY
4 November 2025



TIME
14:00 – 15:00



VENUE
Y5-205, 5/F Yeung Kin Man Academic Building

ABSTRACT

The presenter has developed optical imaging technologies, including in vivo fluorescence I/II region imaging, photoacoustic tomography, and photoacoustic microscopy, achieving in vivo imaging with low background signals and high resolution. They have established methods for the localization, quantification, and diagnosis of metabolic diseases such as metabolic-associated fatty liver disease and metabolic kidney disease, providing important structural, functional, metabolic, and molecular information. The presenter has also advanced the application of optical imaging technology in precise lipid quantification and monitoring of fat-reduction therapies. Finally, the related technologies were demonstrated in the diagnostic applications for clinical patients and their potential for translational use.

BIOGRAPHY

Liming Nie is a professor and PhD supervisor of Southern Medical University. He has edited and co-authored three textbooks on molecular imaging. His laboratory focused on advancing optical molecular imaging technologies, particularly in broad-spectrum fluorescence imaging, high-speed photoacoustic microscopy, whole-body photoacoustic computed tomography. He has pioneered the preclinical and clinical applications of these technologies. He has been granted more than 10 patents from China and United States. He is actively collaborating with physicians for clinical studies by translating this technology. To date, he has published over 100 peer-reviewed articles in prestigious journals such as Nat Biotechnol, Nat Nanotechnol, Nat Commun, Radiology, Sci Adv. He has delivered more than 20 invited talks at international conferences. His work has been cited by Science, Nat Photonics, Nat Method, Sci Transl Med, etc. His Google Scholar H-index and citations have reached 56 and >10,000, respectively. He has received numerous research funding awards from National Natural Science Foundation of China as well as Ministry of Science and Technology of China. His accomplishments have been selected as one of the top ten optical advancements in China. He received outstanding young scientist Award and first place award in Huaxia medical technology.