

## A Study on Real-Time Fluorescence-Photoacoustic Imaging System for Mouse Thrombosis Monitoring

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**Abstract :** A near-infrared light source used as a light source in the fluorescence imaging system is suitable for use in real-time during the operation since it has no interference in surgical vision. However, fluorescence images do not have depth information. In this paper, we configured the device with the research on molecular imaging systems for monitoring thrombus imaging using fluorescence and photoacoustic. Fluorescence imaging was performed using a phantom experiment in order to search the exact location, and the Photoacoustic image was in order to detect the depth. Fluorescence image obtained when evaluated through current phantom experiments when the concentration of the contrast agent is 25 $\mu$ g / ml, it was confirmed that it looked sharper. The phantom experiment is has shown the possibility with the fluorescence image and photoacoustic image using an indocyanine green contrast agent. For early diagnosis of cardiovascular diseases, more active research with the fusion of different molecular imaging devices is required.

**Keywords :** fluorescence, photoacoustic, indocyanine green, carotid artery

**Conference Title :** ICBIRS 2018 : International Conference on Biomedical Imaging and Radiological Science

**Conference Location :** Paris, France

**Conference Dates :** August 27-28, 2018