



이름: 박상민/Sang Min Park

직위: 연수연구원/Postdoctoral researcher

소속: 컬러변조 초감각 인지기술 선도연구센터/Engineering Research Center for Color-Modulated Extra-Sensory Perception Technology

강연제목: 새로운 광원을 통한 다중분광 광음향 현미경의 발전

Advancing Multispectral Photoacoustic Microscopy with Novel Light Sources

Abstract: Photoacoustic microscopy (PAM) is a powerful imaging technique that enables high-resolution visualization of biological tissues. For both clinical and research applications, high-speed and wavelength-switchable light sources are essential to support rapid image acquisition and to incorporate various contrast agents for functional imaging.

In this talk, we present a multispectral PAM system that integrates a novel high-speed, wavelength-tunable light sources, optimized for operation in the visible (VIS) and near-infrared (NIR) spectral regions. This light source is specifically designed to enable rapid imaging while expanding the capabilities of PAM in molecular and spectroscopic applications.

Our results demonstrate that the proposed light source can effectively capture high-speed molecular images and distinguish various absorption markers in both biological and synthetic samples. We believe this technology will significantly contribute to the advancement of PAM by extending its spectral range and enhancing imaging speed.

Brief Biosketch

Sang Min Park received the M.S. and Ph.D. degrees in Cogno-Mechatronics Engineering from Pusan National University, Busan, South Korea, in 2018 and 2024, respectively. Since 2024, he has been working as a postdoctoral researcher at the Engineering Research Center for Color-Modulated Extra-Sensory Perception Technology. His research focuses on the development of nonlinear fiber lasers and optical imaging systems for biomedical applications.