

Development of Optical Coherence Tomography as Innovative Tools for Biomedical Research and Applications in Thailand

Optical coherence tomography (OCT) is an optical imaging technology that uses low temporal coherence of broadband near infrared light to image depth cross-section structure of biological sample at micrometers resolution. OCT uses the low coherence of light as a selection window to non-invasively and precisely gate light reflection and scattering at specific depth location underneath the sample's surface and uses this information to reconstruct depth-resolved structure of the sample. Over the past ten years, we have researched on various designs and implementations of OCT techniques at Suranaree University of Technology. In this talk, I will discuss various advanced systems and techniques of OCT for non-invasive imaging and characterization of biological tissues. Several examples of applications of our developed systems in the field of material science, biology, biomedical research, environmental research, and agriculture will be presented.

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