



應用科學研究中心

Research Center for Applied Sciences



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**High resolution optical bio-imaging with
electron-beam excitation assisted microscopy**

Date: 2017.03.09 (Thur)

Time: 11:00-12:00

**Venue: B106 Auditorium, 1F, IRBST,
Academia Sinica**

跨領域科技研究大樓 1F B106 演講廳

Host: Din Ping Tsai 蔡定平主任

High resolution optical bio-imaging with electron-beam excitation assisted microscopy

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Abstract

We present label-free and high spatial-resolution imaging for specific cellular structures using an electron-beam excitation-assisted optical microscope (EXA microscope). Images of the actin filament and mitochondria of stained HeLa cells, obtained by fluorescence and EXA microscopy, were compared to identify cellular structures. Based on these results, we demonstrated the feasibility of identifying label-free cellular structures at a spatial resolution of 82 nm. Using numerical analysis, we calculated the imaging depth region and determined the spot size of a cathodoluminescent (CL) light source to be 83 nm at the membrane surface.