

SEMINAR ANNOUNCEMENT

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING

Faculty of Engineering

Website: <https://www.eng.nus.edu.sg/ece/>

Area: Microelectronic Technologies & Devices

Host: Prof. Hong Minghui

TOPIC	:	Development of Microsphere Confocal Microscope For 3D Nano-Imaging
SPEAKER	:	Ms. Yang Xiliang Graduate student, ECE Dept, NUS
DATE	:	Friday, 11 December 2020
TIME	:	4.00PM to 5.00PM
WEBINAR	:	Join Zoom Meeting https://nus-sg.zoom.us/j/89305011610?pwd=VFZDdlZENXIkYkhHWThjbjJkVi84Zz09 Meeting ID: 893 0501 1610 Password: 217388

ABSTRACT

Confocal microscope has been an important tool of 3D imaging in life sciences, materials science and semiconductor inspection, but its theoretical resolution (~ 180 nm under 405nm laser with 150 \times objective lens NA0.95) still cannot fully match the need of nano-imaging. In this talk, a new kind of confocal microscope based on microsphere is reported. A self-built setup is developed to ensure the focus of microsphere and pinhole are in the confocal positions. With a smaller focused light spot, higher effective NA and a suitable confocal pinhole, confocal imaging of 120 nm lateral feature can be achieved with a 20 \times objective lens (NA0.42) under the illumination of a 405nm laser.

BIOGRAPHY

Ms. Yang Xiliang is currently a M.Eng student in Department of Electrical & Computer Engineering, National University of Singapore (NUS), under the supervision of Prof. Hong Minghui. Her research interest covers sub-diffraction resolution imaging through microsphere with different microscope techniques. Xiliang received her Bachelor's degree from University of Shanghai for Science and Technology, major in Photoelectric Information Science and Engineering.

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