

## WORKSHOP ON MICROSCOPY

HKMLT Board-accredited Programme Code: 07070061

The Institute will organize a workshop on microscopy as a means of continuous professional education for members. The workshop is HKMLT Board-accredited and 12 CPD points will be granted upon completion. Lectures, demonstrations and practical sessions will cover: 1) geometrical and physical optics of microscope; 2) image formation, interaction of light and matter, phase contrast polarization and differential interference contrast for the non-destructive analysis of molecular and fine-structural organization in living cells; 3) ratiometric measurement; 4) fluorescence, filters, dichroics and immuno-labelling; 5) principles and application of digital imaging, processing, analysis and display; 6) confocal/laser scanning microscopy and colour compensation; 7) electron microscopy, modes of imaging, sample processing and application. To enhance dynamic interactions with experts in the field, a small group of no more than 12 participants will be enrolled on a first come first served basis. Please send in your enrolment specifying your years of HKIMLS membership to [info@hkimls.org](mailto:info@hkimls.org).

Details of the workshop are:

Date: 6:30 – 8:30 pm, Tuesday/Friday, March 27<sup>th</sup> – April 20<sup>th</sup> 2007

Duration: Twelve (12) hours

Venue: Registered office of Hong Kong Institute of Medical Laboratory Sciences  
Room 1711, 17<sup>th</sup> Floor, Block C, Bell House, 525-543 Nathan Road, Yaumatei, Kowloon

Programme:

- Basic principle: optics and light, nature of lenses, numerical aperture, Kohler illumination, condenser, objectives, phase rings
- Microscope design, modes of imaging, image formation, maintenance and calibration
- Optical microscopy techniques: bright field, oblique illumination, dark field, phase contrast and differential interference contrast
- Fluorescence microscopy: theory, contrast, resolution, filters, dichroics, immuno-labelling
- Fluorescence microscopy: CCD cameras, photo-multiplying tubes, noise, color/monochrome, sampling, pixel depth, Nyquist criterion, digital image formats, image processing, ethics
- Confocal/laser scanning microscopy: theory, sensitivity, pinhole, filters, spectral detection, 3-dimensional projections, rendering live cell imaging, co-localization, multi-channel fluorescence, colour compensation
- Electron microscopy: principle, sample processing and application

Co-ordinator: Dr Kent Tsang, PhD, Academic Secretary, Hong Kong Institute of Medical Laboratory Sciences

Speakers: Mr Danny Poon, MSc, Meta-systems Asia

Mr Yan Law, MPhil, Carl Zeiss Far East

Mr Eddy Won, BSc, Lotts Tech Hong Kong

Mr Bosco Yau, Electron Microscopy, Department of Pathology, Queen Mary Hospital

Fee: HK\$1,000