Lectures

This page is a collection of lectures found on youtube that explain the basics of fluorescence, fluorescence lifetime and its applications.

Fluorescence and Fluorescence Microscopy

Fluorescence is the emission of light by a substance that has absorbed light or other electromagnetic radiation. It is a form of luminescence. In most cases, the emitted light has a longer wavelength. (Fluorescence)

Fluorescence and Fluorescence Microscopy explained by Nico Stuurman at UCSF.

http://www.ibiology.org/ibioseminars/techniques/nico-stuurman-part-1.html

Confocal Microscopy

Mark Armitage explains major components of confocal microscopes and their use.

This video is part of a series of videos. This is the related playlist:
https://www.youtube.com/playlist?list=PLO0yDSkagDljzI0bdM5m1njrdLdVa80_N

Nikons website MicroscopyU.com has a very nice course on confocal microscopy.

Kurt Thorn: Optical Sectioning and Confocal Microscopy

Confocal Microscopy explained by Kurt Thorn of the Nikon imaging center at UCSF

http://www.ibiology.org/ibioseminars/techniques/kurt-thorn-part-1.html

Kurt Thorn: Two Photon Microscopy

Kurt Thorn of UCSF talks about two-photon microscopy which uses intense pulsed lasers to image deep into biological samples. It can be used for imaging thick tissue specimens or even imaging inside of live animals.

http://www.ibiology.org/ibioeducation/taking-courses/two-photon-microscopy.html

Philippe Bastiaens: Fluorescence Lifetime Microscopy (FLIM)

Fluorescence-lifetime imaging microscopy or FLIM is an imaging technique for producing an image based on the differences in the exponential decay rate of the fluorescence from a fluorescent sample. It can be used as an imaging technique in confocal microscopy, two-photon excitation microscopy, and multiphoton tomography. The

lifetime of the fluorophore signal, rather than its intensity, is used to create the image in FLIM. This has the advantage of minimizing the effect of photon scattering in thick layers of sample (FLIM).

http://www.ibiology.org/ibioeducation/taking-courses/fluorescence-lifetime-imaging-microscopy.html

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PicoQuant GmbH
Rudower Chaussee 29 (IGZ)
12489 Berlin
Germany

P +49-(0)30-1208820-89
F +49-(0)30-1208820-90
info@picoquant.com
www.picoquant.com