

OLYMPUS

Your Vision, Our Future

**OLYMPUS ITALY is pleased to
Invite You to the Workshop:**



Live-Cell Imaging From Single Cells To Whole Organisms

11th-12th of FEBRUARY, 2014

c/o Università di Ferrara - Aule CUBO

SEGRETERIA ORGANIZZATIVA

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Program

11th February 2014

- 9:30 - 10:00** Registration and
Welcome Prof. Paolo Pinton
- 10.00 - 10:45** Dr. Florian Eich "Live Cell Imaging"
Topics to be covered:
Good Imaging practice (Contrast, resolution, toxicity, sampling)
Methods of 3D imaging (spinning disc vs point scanner vs deconvolution)
Explanation of confocal principle and units determining live-cell imaging capacity
Points to consider when imaging multicolor fluorescence
FRAP/photoconversion and related applications
- 10:45 - 11:30** Prof. Tullio Pozzan "Lights on second messengers"
- 11:30 - 12:00** coffe break
- 12:00 - 12:45** Ing. Andrea Castelli "TIRF Imaging and single molecule detection"
Topics to be covered:
Explain TIRF principle
Benefits and drawbacks on TIRF in relation to other techniques
Single molecule detection as concept for SRM
brief introduction into reconstruction based SRM vs acquisition based SRM
points to take care when using SRM
- 13:00 - 14:30** light lunch
- 14:30 - 15:30** I° pratical session for group A
15:30 - 16:30 II° pratical session for group A
16:30 - 17:30 III° pratical session for group A
17:30 - 18:30 IV° pratical session for group A

Microscope Systems on site

Scan^R – High Content Screening
Fluoview FV1200 confocal LSM – 3D Live-Cell Imaging
cellTIRF – multicolor single molecule detection
cellSENS with CSU – 3D Live-Cell Imaging

Program

12th February 2014

09:30 - 10:15	Dr. Igor Del Vecchio "HCS"
10:15 - 10:45	Dr. Patergnani "New therapeutic targets and biomarkers of the human malignant pleural mesothelioma" Topics to be covered: mention of a ratiometric experiment, done with Xcellence, for the analysis of fluorophores Fura-2, JC-1 and mtHyper.
10:45 - 11:15	Dr. Massimo Bonora "Dissecting the role of ATP synthase in mitochondrial permeability transition pore" Topics to be covered: mention scanR for a screening of siRNA through a functional assay of mitochondria. In particular, the cells analyzed are colored with: - Hoechst, to identify them, - Mitotracker deep red, to identify the mitochondria of the cells related, - H2B-RFP to identify only those cells that have acquired the siRNA, - Cobalt and calcein (the spectrum is similar to FITC) for measuring the mitochondrial functionality.
11:15 - 11:45	coffe break
11:45 - 12:30	Dr. Florian Eich "In vivo Imaging" Topics to be covered: Principle of MPE and necessary equipment Comparison MPE vs SPE for toxicity, penetration depth, applicative differences (e.g. Multicolor) Structural imaging with SHG
12:30 - 13:00	Conclusion Prof. Paolo Pinton
13:00 - 14:00	light lunch
14:00 - 15:00	I° practical session for group B
15:00 - 16:00	II° practical session for group B
16:00 - 17:00	III° practical session for group B
17:00 - 18:00	IV° practical session for group B

Speakers

Prof. P. Pinton (University of Ferrara) - Moderator
Prof. T. Pozzan (CNR)
Dr. S. Patergnani (University of Ferrara)
Dr. M Bonora (University of Ferrara)
Dr. F. Eich (OLYMPUS EUROPA SE & CO. KG)
Ing. A. Castelli (OLYMPUS ITALIA S.R.L.)
Dr. I. Del Vecchio (OLYMPUS ITALIA S.R.L.)