Technical Information

Workshop overview
Through lectures, participants will be taught all relevant aspects of deriving important parameters from living specimens using optical techniques. The course emphasizes the use of the latest equipment and techniques in fluorescence microscopy, including confocal laser scanning microscopy, multiphoton microscopy, F-techniques (FRET, FRAP, etc), and wide field imaging of living specimens. Additionally, practical sessions will give the opportunity to participants to perform time-lapse imaging with living samples using confocal microscope & wide field imaging systems.

List of speakers
The program of this workshop brings a team of top scientists as well as Leica Microsystems specialists; this undoubtedly forms a unique opportunity to become acquainted with the latest advances in this key area of microscopy, which is having such an impact on cell science.

- **Valeria Caiolfa**
  San Raffaele Scientific Institute. Italy.
  Spanish National Cardiovascular Center. Spain.
- **Alberto Diaspro**
  University of Genova. Italy.
- **Adriaan Houtsmuller**
  Erasmus MC Rotterdam. Netherlands
- **Leif Hove-Madsen**
  Catalan Cardiovascular Institute. Spain
- **Ralph Jacob**
  Phillips University of Marbourg. Germany
- **Kees Jalink**
  Netherlands Cancer Institute. The Netherlands.
- **Diego Megías**
  Spanish National Cancer Research Center. Spain.
- **Maria Montoya**
  Spanish National Cancer Research Center. Spain.
- **Silvio O. Rizzoli**
  Max-Planck-Institute for Biophysical Chemistry, Germany.
- **Jens Stein**
  University of Bern. Switzerland.
- **Alexei Tepikin**
  University of Liverpool. United Kingdom
- **Pierre Vincent**
  CNRS University of Paris. France.
- **Malte Wachsmuth**
  European Molecular Biology Lab. Germany
- **Timo Zimmermann**
  Center for Genomic Regulation. Spain.

Leica Microsystems Advanced Fluorescence Systems Team:

Alvar Piera, Juan Luis Monteagudo, Francisco Porto, José Doncel, Mark Munro, Matthias Thyroff & Craig Stewart – Leica Microsystems Spain.

Irmtraud Steinmetz & Rolf Borlinghaus – Leica Microsystems CMS GmbH.

General Information

Venue CNIO - Spanish National Cancer Research Center
Melchor Fernández Almagro, 3, E-28029 Madrid
www.cnio.es

Date 9th – 11th October 2008

Scientific organiser Dr María Montoya

Registration

The whole workshop:
Registration includes all documentation related to the "CNIO-Leica Advanced Live Cell Microscopy Workshop",access to all lectures, lunches and coffee breaks, as well as participation in the practical sessions. Only 20 places are available, so allocation will be done on a "first come, first served" basis.
Price 700 Euros

Lectures only:
This registration is open to 100 participants, and includes documentation related to the "CNIO-Leica Advanced Live Cell Microscopy Workshop", access to all lectures, lunches and coffee breaks.
Price 150 Euros

Each participant will receive acknowledgement of his/her application. Payment should be by cheque, made payable to Leica Microsistemas S.A. before
1st October 2008.

Participants should register directly on our website: www.leica-microsystems.com/cnio

Practical sessions: Microscopy systems available for the practical sessions will include two high speed & high resolution confocal microscopes, one widefield deconvolution system, and one TIRF microscope. Different experiments including vesicle traffic, cell migration, cell division, and focal adhesions imaging with live cell samples will be performed during the practical sessions.

Workshop Language: All lectures will be in English, translation services will not be provided.

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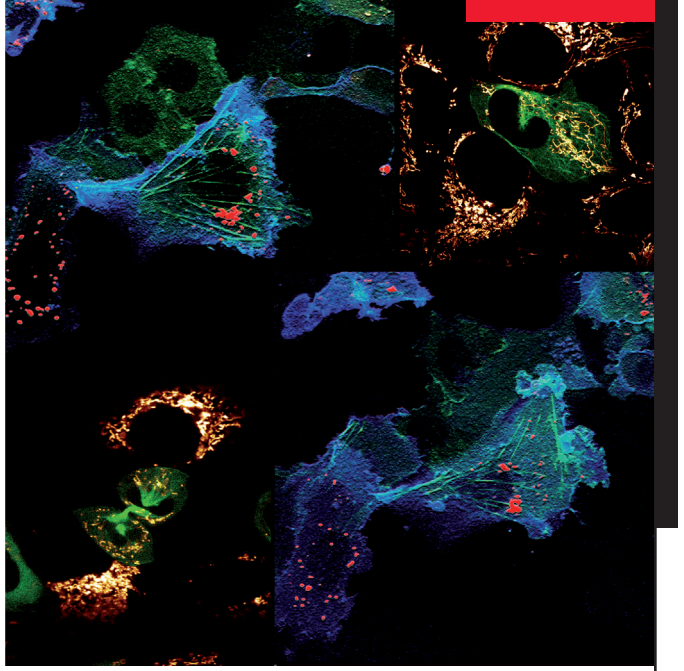
cnio Centro Nacional de Investigaciones Oncológicas

Leica MICROSYSTEMS



4th Advanced Live Cell Microscopy Workshop

Madrid, 9th – 11th October 2008

Organised by the
Confocal Microscopy and Cytometry Unit (CNIO) and
Leica Microsystems

cnio Centro Nacional de Investigaciones Oncológicas

Living up to Life

Leica MICROSYSTEMS

Thursday 9th October

Chair Maria Montoya: Welcome

09:00 **Diego Megias**
"Keeping cells alive on the microscope"

09:45 **Irmtraud Steinmetz**
"Confocal Microscopy – from MACRO to NANO: New Solutions for Varying Needs in Observation Field and Resolution"

10:30 **Alexei Tepikin**
"Optical techniques for studies of Ca2+ signals, mitochondria functions and cell damage"

11:15 Coffee Break

Chair Alexei Tepikin

11:45 **Pierre Vincent**
"Real-time FRET imaging of cyclic nucleotides in neurons, in brain slices and in vivo"

12:30 **Kees Jalink**
"Live-cell imaging of signal transduction events"

13:15 Lunch

Chair Kees Jalink

14:30 **Adriaan Houtsmuller**
"*Quantitative FRAP and FRET assays to study nuclear protein dynamics"*

15:15 **María Montoya**
"Tumor cell migration and invasion studies"

16:00 **Timo Zimmermann**
*"*A closer look at scanning techniques: Single-beam, multi-beam and line-scanning confocal microscopy in live cell imaging*"*

16:45 Coffee Break

Chair Pierre Vincent

17:15 **Jens Stein**
"Intravital microscopy and 3D Immunohistology"

18:00 **Rolf Borlinghaus**
"The White Confocal"

18:45 End of Session

Friday 10th October

Chair Ralph Jacob

09:00 **Alberto Diaspro**
"Advances in non-linear fluorescence excitation"

09:45 **Malte Wachsmuth**
"Measuring mobilities and interactions with fluorescence correlation spectroscopy"

10:30 **Valeria Caiolfa**
"Solving binding and stoichiometry of protein complexes in live cells by real time fluorescence imaging"

11:15 Coffee Break

Chair Alberto Diaspro

11:45 **Leif Hove-Madsen**
"Fast confocal calcium imaging in cardiac myocytes subjected to patch-clamp technique"

12:30 **Ralf Jacob**
"Monitoring cellular compartments involved in polarized protein transport by fluorescence microscopy"

13:15 **Silvio O. Rizzoli**
"Synaptic vesicle recycling imaged by STED microscopy"

14:00 Lunch

15:30 **Simultaneous laboratory practical sessions**
Live cell experiments will be performed on the following topics:
- *Widefield time lapse microscopy imaging of cell migration*
- *TIRF microscopy for visualizing focal adhesions*
- *Confocal FRET analysis of molecular interactions*
- *Confocal studies of molecular dynamics (FRAP)*

19:30 End of Session

Saturday 11th October

09:00 **Simultaneous laboratory practical sessions**
Live cell experiments will be performed on the following topics:
- *Widefield time lapse microscopy imaging of cell migration*
- *TIRF microscopy for visualizing focal adhesions*
- *Confocal FRET analysis of molecular interactions*
- *Confocal studies of molecular dynamics (FRAP)*

13:00 End of Session