

## Objectives of the Course

### To whom is it targeted?

This course is oriented towards current and perspective users who would like to gain both theoretical and practical knowledge in Confocal Microscopy.

### Which application areas are covered?

Advanced applications of Confocal Microscopy in the Life Sciences with special emphasis on Multicolor Imaging, Fluorescence Energy Transfer and Multiphoton microscopy.

## List of Speakers

### Dr. Stamatis Pagakis

Biomedical Research Foundation, Academy of Athens, Greece

### Dr. Alberto Diaspro

LAMBS-MicroScoBio, University of Genova, Italy

### Dr. Timo Zimmermann

Advanced Light Microscopy Unit, Centre for Genomic Regulation, Barcelona, Spain

### Dr. Gian Michele Ratto

NEST Laboratory, Scuola Normale Superiore, Pisa, Italy

### Dr. Christos Zervas

Biomedical Research Foundation, Academy of Athens, Greece

### Dr. Zoi Lygerou

University of Patras, Medical School, Patras, Greece

### Dr. Dimitra Thomaidou

Hellenic Pasteur Institute, Athens, Greece

### Dr. Spyros Georgatos

University of Ioannina, Medical School, Ioannina, Greece

### Matthew Issoukis

Leica Microsystems, Mannheim, Germany

### Dr. Susanne Liebe

Leica Microsystems, Mannheim, Germany

### Gabriele Burger

Leica Microsystems, Mannheim, Germany

## General Information

**Place:** Biomedical Research Foundation, Academy of Athens  
Biological Imaging Unit  
Soranou Efessiou 4  
Athens 115 27, Greece  
<http://www.bioacademy.gr>

**Date:** 26<sup>th</sup> – 28<sup>th</sup> May 2009

**Scientific organizer:** Dr. Stamatis Pagakis  
Dr. Giannis Spyrou

### Registration:

Lectures are free of charge, but registration by e-mail to [Contact@analytical.gr](mailto:Contact@analytical.gr) is required.

Practical sessions require a Registration Fee of 200 Euro. It includes all documentation related to the course, lunches and coffee breaks.

**Only 24 places for the practical sessions are available**, so allocation will be on a "first come, first served" basis.

Payment should be made out to "Analytical Instruments S.A." in advance of the course. Participants should register via our e-mail address: [Contact@analytical.gr](mailto:Contact@analytical.gr)

**Language:** Lectures will be in English and without translation.



## BRFAA Course on Recent Advances and Applications in Multidimensional Confocal Microscopy

**Athens, 26<sup>th</sup> – 28<sup>th</sup> May 2009**

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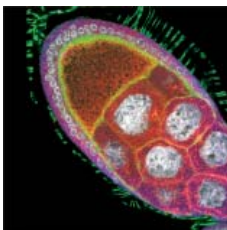
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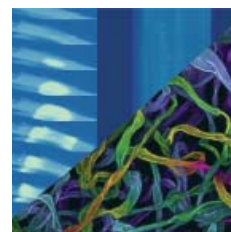
## Tuesday 26<sup>th</sup> May 2009

- 09:15 **Welcome**  
*Pagakis Stamatis/Matthew Issoukis*
- 09:30 **Basics of Confocal Microscopy  
Resolution, Image Quality and Sample Preparation**  
*Matthew Issoukis*
- 10:30 **Multidimensional Confocal Microscopy**  
*Gabriele Burger*
- 11:30 Coffee Break
- 12:00 **Large Scale Imaging Microscopy**  
*Susanne Liebe*
- 12:30 **Image Deconvolution Techniques in Confocal  
and Wide Field Microscopy**  
*Stamatis Pagakis*
- 13:30 Lunch
- 15:00 **Practical Session (I)**  
3 Groups
- **Leica TCS SP5**  
Setup, Image Acquisition, Crosstalk Removal,  
Live Cell Imaging
  - **Leica TCS LSI**  
Setup, Image Acquisition, Sequential Scan, 3D
  - **Leica AF6000**  
Setup, Image Acquisition
- 16:30 Coffee Break
- 17:00 **Practical Session (I)**
- 18:30 End of Session



## Wednesday 27<sup>th</sup> May 2009

- 09:00 **Dye Separation, Multicolor Imaging and Analysis**  
*Susanne Liebe*
- 10:00 **Analytical Confocal Microscopy:  
FRET, FRAP and PA-GFP**  
*Timo Zimmermann*
- 11:00 Coffee Break
- 11:30 **Full Spectral Imaging from Multiphoton  
to White Light Laser Developments**  
*Alberto Diaspro*
- 12:30 **Super Resolution Microscopy:  
Stimulated Emission Depletion**  
*Matthew Issoukis*
- 13:00 Lunch
- 14:30 **Practical Session (I)**
- 16:00 Coffee Break
- 16:30 **Practical Session (II)**
- **Leica TCS SP5**  
Fluorescence Resonance Energy Transfer
  - **Leica TCS LSI**  
Dye Separation, Colocalisation Analysis
  - **Leica AF6000**  
Deconvolution
- 18:00 End of Session
- 19:30 **Joint Dinner**



## Thursday 28<sup>th</sup> May 2009

- 09:00 **Correlating Protein Steady-state Localization and  
Dynamics: Current Status and Future Prospects.**  
*Spyros Georgatos*
- 09:30 **Functional Analysis in Live Cells by FRAP, FLIP  
and FRET: Applications in Cell Cycle Studies**  
*Zoi Lygerou*
- 10:00 **Monitoring Neurogenesis in the Developing  
and Adult Mouse Forebrain with the Use of  
Confocal Microscopy Approaches**  
*Dimitra Thomaidou*
- 10:30 Coffee Break
- 11:00 **A Window with a View: Structure and Function in  
the Cortex Imaged with a Two-Photon Microscope**  
*Gian Michele Ratto*
- 12:00 **Applications of Confocal Microscopy in the Study  
of Drosophila Morphogenesis**  
*Christos Zervas*
- 12:30 Discussion
- 13:00 Lunch
- 14:30 **Practical Session (II)**
- **Leica TCS SP5**  
Fluorescence Resonance Energy Transfer
  - **Leica TCS LSI**  
Dye Separation, Colocalisation Analysis
  - **Leica AF6000**  
Deconvolution
- 16:00 Coffee Break
- 16:30 **Practical Session (II)**
- 18:00 Wrap-up discussion and end of the workshop

