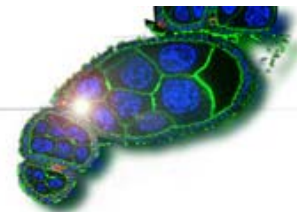


Laserlab Europe

Laserlab Europe

The "Integrated Initiative" of European Laser Infrastructures
in the 7th Framework Programme of the European Union

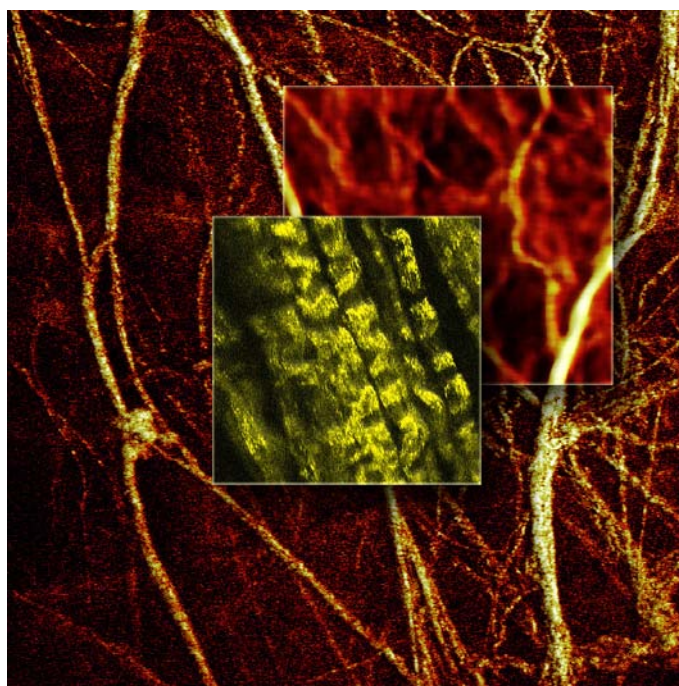


Laserlab Europe User Community Training the Regional Eastern-Europe Training School for Potential Users

featuring

Workshop on Advanced Optical Techniques in Bio-Imaging

Bratislava, 04-07 July 2011



Organized by:

International Laser Centre, Bratislava; Becker & Hickl GmbH., Berlin;
Science and Education Agency, Bratislava



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Program

Workshop on Advanced Optical Techniques in Bio-Imaging Day 1, July 4 (held at SUZA)

8:00 – 9:00	Registration (at SUZA)
9:00 – 9:05	Workshop Opening F. Uherek
9:05 – 9:30	Laserlab Europe overview - concepts and working modes D. Chorvat
Block I.	INTRODUCTION to LASER SPECTROSCOPY
9:30 – 10:30	PLENARY - Modern Techniques in Laser Spectroscopy W. Demtröder
<i>10:30 – 11.00</i>	<i>Coffee break</i>
11:00 – 11:30	Nonlinear laser spectroscopy imaging F. Pavone
11:30 – 12:00	Laser spectroscopy applied to environmental and medical research S. Svanberg
<i>12:00 – 14:00</i>	<i>Lunch</i>
Block II.	TIME-RESOLVED SPECTROSCOPY and IMAGING
14:00 – 15:00	PLENARY - Principles and overview of TCSPC and its applications B. Su
15:00 – 15:30	Analysis of time-resolved spectroscopy data D. Chorvat
<i>15:30 – 16.00</i>	<i>Coffee break</i>
16:00 – 16:30	Fluorescence lifetime imaging and high content analysis P. French
16:30 – 17:00	Spectral dimension in time-resolved fluorescence investigation of cells A. Chorvatova
17:00 – 17:30	Spectrally-resolved fluorescence lifetime imaging (SLIM) and its applications A. Rück

Workshop on Advanced Optical Techniques in Bio-Imaging

Day 2, July 5 (held at SUZA)

Block III.	BIOMEDICAL and CLINICAL APPLICATIONS of LASER SPECTROSCOPY, IMAGING and TECHNOLOGY
9:00 – 10:00	PLENARY TALK - FLIM in Ophtalmology D. Schweitzer
10:00 – 10:30	Multidimensional imaging of tissue autofluorescence and high-speed fluorescence imaging with oblique plane microscopy Ch. Dunsby
<i>10:30 – 11:00</i>	<i>Coffee break</i>
11:00 – 11:30	Multidimensional fluorescence microscopy Ch. Biskup
11:30 – 12:00	Towards increased selectivity of cancer treatment by Photodynamic therapy: development of a selective nano-delivery system P. Miskovsky
<i>12:00 – 13:30</i>	<i>Lunch</i>
13:30 – 14:30	PLENARY TALK - Laser-based spectroscopy for the detection and treatment of human malignancies K. Svanberg
14:30 – 15:00	Multi-photon CARS Tomography for Small Animal Research and Clinical Studies K. König
<i>15:00 – 15:30</i>	<i>Coffee break</i>
Block IV.	Partner presentations
15:30 – 16:30	Listen to the Sound of the Scanner: FLIM and FCS with the DCS-120 Confocal FLIM System B.Su, Becker & Hickl
16:30 – 17:30	Advanced multispectral imaging – highlights of the Zeiss LSM 780 M. Marx, Carl Zeiss
17:30 – 17:40	Organizational remarks D. Chorvat
17:40 – 19:00	Poster session (at SUZA) <i>Technical information:</i> Displaying posters is not obligatory, but all users are welcome to present their contributions for stimulating the information exchange between participants. Poster stands will be available whole day (since morning up to 19.00). Stand size is A0 (90cm width x 120cm height).
<i>19:00 – 22:00</i>	<i>Conference Dinner (at SUZA)</i>

User Training School

Day 3, July 6 (held at ILC)

9:00 – 12:30	<p>Hands-on user training: Introductory sessions Training at four advanced microscopy set-ups* (ILC facilities and industrial partners), together with lecture session on Research study /access protocol preparation and Scientific paper preparation (L. Bacharova et al.)</p> <p><i>Technical information:</i> 4 stands with different microscopy and signal detection possibilities will be available at ILC, including ILC labs, Becker & Hickl, Zeiss and Kvant instrumentation. The participants will be separated into 5 groups according to the list displayed at Registration desk. Each group will attend all 4 stands and the lecture session in the cyclic manner during the day (each block is approximately 1hour).</p> <p>Coffee break will be provided between sessions</p>
12:30 – 13:30	<i>Quick Lunch</i>
13:30 – 15:30	<p>Hands-on user training: Introductory sessions Continuation in training at four advanced microscopy set-ups* (ILC facilities and industrial partners), together with lecture session on Research study /access protocol preparation and Scientific paper preparation (L. Bacharova et al.)</p>
15:30 – 16:00	<i>Coffee break</i>
16:00 – 18:00	<p>Panel discussion: Communication with editors, reviewers, access and technology providers. Distribution of Certificates of Attendance</p>
18:00 – 20:30	<i>Training School Party (at ILC)</i>

User Training School

Day 4, July 7 (held at ILC)

9:00 – 12:30	<p>Hands-on user training : Advanced sessions Open access to microscopy set-ups* at ILC facilities according to user's interest (ILC facilities, Becker & Hickl, Zeiss and Kvant)</p> <p><i>Technical information:</i> The participants will be separated into groups according to their interest towards different techniques. Advanced sessions will include guided and/or individual work of users at the provided set-ups for unlimited time. We encourage the users to bring their own samples for testing purposes.</p> <p><i>Coffee break will be provided between sessions</i></p>
12:30 – 13:30	<i>Quick Lunch</i>
13:30 – 15:00	<p>Hands-on user training : Advanced sessions continuation with open access to microscopy set-ups* at ILC facilities according to user's interest (ILC facilities, Becker & Hickl, Zeiss and Kvant)</p>
15:00 - 15:15	Training school summary and closing remarks

*** Sites available for practical user training:**

1. **ILC** – confocal laser scanning microscope with 2-photon excitation and spectrally resolved fluorescence lifetime imaging (Zeiss LSM 510 META NLO + Becker&Hickl TCSPC).
2. **Becker&Hickl** – multi-modal confocal laser scanning microscope DCS-120 and time-resolved fluorescence microspectroscopy setup.
3. **Zeiss** – confocal laser scanning microscope system LSM 780.
4. **Kvant** – microspectrometer Craic, laser and LED biomedical instrumentation.
5. **lecture** – session on Research study /access protocol preparation and Scientific paper preparation (L. Bacharova et al.).