

LASERLAB Foresight Workshop and Users Meeting

“Trends of Laser Applications in Biology and Biomedicine”

(<http://www.iesl.forth.gr/conferences/laserlab/>)

Preliminary Programme

	Thursday 23 October, 2008
	LASERLAB Foresight Workshop
09:00-09:45	“Two-Dimensional Femtosecond Spectroscopy: Imaging Functionality” G. Fleming (<i>invited</i>), University of California, Berkeley (USA)
09:45-10:30	“Multidimensional Fluorescence Imaging” P. French (<i>invited</i>), Imperial College London (UK)
10:30-11:00	<u>Break</u>
11:00-11:45	“Nonlinear direct-write laser processing for biomedical applications” B. Chichkov (<i>invited</i>), Laser Zentrum Hannover (D)
11:45-12:30	“Nanobiotechnology: From Fibril Self-Assembly to Novel Materials” E. Gazit (<i>invited</i>), Tel Aviv University (I)
12:30-13:00	“Laser source considerations for improved nonlinear optical microscopy” G. McConnell (<i>invited</i>), University of Strathclyde (UK)
13:00-14:30	<u>Lunch</u>
	LASERLAB Foresight Workshop (cont.)
14:30-15:15	“Advanced optical beam shaping for applications in the biosciences” K. Dholakia (<i>invited</i>), University of St. Andrews (UK)
15:15-15:45	“Digital holographic microscopy: a new laser optical technique for functional imaging in the life sciences” G. von Bally (<i>invited</i>), Medical Centre, University of Muenster (D)
15:45-16:00	“Materials in neurons world” E. Papadopoulou , IESL-FORTH, Heraklion (GR)
16:00-16:15	Biophotonics research in “Nature Photonics” O. Graydon , Editor in Chief
16:15-16:45	<u>Break</u>

LASERLAB RIs and Users Meeting	
16:45-17:15	<p>"Illuminating the way the motor protein kinesin walks with single-molecule fluorescence microscopy"</p> <p>E. Peterman (<i>invited</i>), VU University Amsterdam (NL)</p>
17:15-17:30	<p>"3D nanostructuring of biopolymers by femtosecond laser irradiation"</p> <p>E. Fadeeva, J. Koch, S. Gaspard, M. Oujja, B.N. Chichkov, M. Castillejo, CSIC (ES)</p>
17:30-17:45	<p>"The technology of selective laser melting for medical applications"</p> <p>I. Yadroitsev, M. Doubenskaia, I. Smurov, ENISE, DIPI Lab., St.-Etienne (F)</p>
17:45-18:00	<p>"Femtosecond laser surgery on the anterior segment of the eye"</p> <p>K. Plamann, V. Nuzzo, F. Deloison, F. Aptel, D. A. Peyrot, C. Crotti, M. Savoldelli, J.-M. Legeais, ENSTA, CNRS UMR 7639, Palaiseau (F)</p>
18:00-18:15	<p>"Two photon polymerization and applications in biology"</p> <p>C. Reinhardt, Laser Zentrum Hannover e.V. (D) & IESL-FORTH, Heraklion (GR)</p>
18:15-18:30	<p>"Atomic and Biochemical magnetometers"</p> <p>I. Kominis, IESL-FORTH and Univ. of Crete, Heraklion (GR)</p>
20:30	<i>BBQ Dinner</i>

Friday 24 October, 2008	
LASERLAB Foresight Workshop (cont.)	
09:00-09:45	<p>"Illuminating biological discovery with photonic imaging"</p> <p>V. Ntziachristos (<i>invited</i>), Technische Universitaet Muenchen (D)</p>
09:45-10:30	<p>"From femtosecond dynamics at the molecular level to breast tissue diagnostic by Raman spectroscopy. Photostability of normal and malignant breast tissue"</p> <p>H. Abramczyk (<i>invited</i>), I. Placek, B. Brozek-Pluska, J. Surmacki, M. Tazbir and Z. Morawiec, MBI-Berlin (D) and Technical University Lodz (PO)</p>
10:30-11:00	<u>Break</u>
11:00-11:45	<p>"Nonlinear Ultra-fast Focal-point Optics (NUFO) for Biology - Nonlinear Microscopy and Manipulation of Intracellular Structures"</p> <p>K. Itoh (<i>invited</i>), Osaka University (J)</p>
LASERLAB RIs and Users Meeting (cont.)	
11:45-12:00	<p>"An Overview of the Bio-medical Research at the Central Laser Facility, U.K"</p> <p>S. W. Botchway, Rutherford Appleton Lab. (UK)</p>
12:00-12:15	<p>"Fluorescence lifetime analysis of molecular event leading to establishment of efficient photoprotective state in the Photosystem II antenna"</p> <p>M.P. Johnson, A. Zia and A.V. Ruban, Queen Mary University of London (UK)</p>

12:15-12:30	<p>"Refractive Index and Dispersion Measurement of Dark-Adapted Wild Type Bacteriorhodopsin"</p> <p>Z. Heiner, G. Szalay, K. Osvay, Biological Research Center of HAS, Inst. Of Biophysics (HU)</p>
12:30-12:45	<p>"Imaging of Laser-Excited Autofluorescence Fading Rates: Novel Technique for Tissue Surface Structure Studies"</p> <p>Janis Spigulis and Alexey Lihachev, University of Latvia (LV)</p>
12:45-13:00	<p>"Imitation of Optical Coherence Tomography images by Monte Carlo Method"</p> <p>I. Meglinski, B. Veksler, M. Kirillin, V. Kuzmin, Cranfield University (UK)</p>
13:00-14:30	<u>Lunch</u>
LASERLAB RIs and Users Meeting (cont.)	
14:30-15:00	<p>"Laser spectroscopy of medical diagnostics and treatment control"</p> <p>S. Andersson-Engels (<i>invited</i>), Lund University (S)</p>
15:00-15:15	<p>"Spectral unmixing - an alternative approach in multi-wavelength time-resolved fluorescence spectroscopy of living cells"</p> <p>D. Chorvat jr., A. Mateasik, A. Chorvatova, International Laser Centre, Bratislava (SK)</p>
15:15-15:30	<p>"Application of iterative deconvolution to improve precision of colocalization of multiple fluorescence probes in confocal images of mitochondria"</p> <p>A. Mateasik, P. Topor, B. Cunderlikova, D. Chorvat jr., International Laser Centre, Bratislava (SK)</p>
15:30-16:00	<p>"Brain function by time domain NIR spectroscopy"</p> <p>A. Torricelli (<i>invited</i>), Politecnico di Milano (I)</p>
16:00-16:30	<u>Break</u>
16:30-17:15	<p>Major EU Projects in Biophotonics</p> <ul style="list-style-type: none"> • "Photonics 21" Technology Platform and Network "Photonics 4 Life", G. Von Bally • Integrated Project (IP) "Ultrafast Quantum Dot Lasers (FASTDOT)", S. Georgiou • IP "Molecular Imaging", G. Zacharakis and J. Ripoll
17:15-18:15	<p>Round Table Discussion</p> <p>Chair: D. Normand, SACLAY-CEA (F)</p>

*** Posters will be on continuous display during the meeting.**

Please indicate if you need poster space by October 10th at the latest.