IEEE ITALY SECTION

IEEE photonics ITALY CHAPTER SOCIETY

Institute of Applied Physics
National Research Council of Italy

2015 3rd International Conference on BioPhotonics

Florence-Italy

20-22 May

BY A. GHERARDI

TECHNICAL PROGRAM

"Florence BioPhotonics week"

ICOB 2015 (18-20 May 2015)
IEEE BioPhotonics 2015 (20-22 May 2015)

CHAIRMEN'S INVITATION

"Biophotonics is a multidisciplinary research area that utilizes light-based technologies, in medicine and life science. The vision behind biophotonics is to gain a full understanding of the origin and molecular mechanisms of diseases to either prevent them or, at least, diagnose them early and precisely, followed by a treatment which is specifically adapted to individual needs." (by "Lighting the way ahead", Photonics21 Strategic Research Agenda, 2010)

Dear Participants to the IEEE BioPhotonics conference,

After the success of the first international IEEE BioPhotonics Workshop (Parma, Italy 2011) and the second one (Taipei, Taiwan, 2013), the Institute of Applied Physics of the National Research Council of Italy and the IEEE Italy Chapter are pleased to welcome you to the third appointment of the series.

From the beginning of the International Workshop BioPhotonics2011 organization, it was clear that talking about biophotonics would have meant to gather scientists with many different experiences, competences and background to cover all different aspects of this new and emerging field.

The IEEE BioPhotonics meetings has been established as a high-level meeting in the area of light-based techniques for medicine, life science, agriculture, environmental science and many other areas of application. Being at BioPhotonics2015 is thus a unique opportunity to interact with a multidisciplinary and fertile forum of experts, where researchers and professionals exchange their specific knowledge and experiences.

The conference will have three Plenary Sessions with keynote speakers from all over the world and fourteen further oral sessions plus two poster ones and an exhibitor showcase. The main topics comprise: diagnostics and therapeutics applications, imaging, integrated optical devices, microscopy, modeling, nano biophotonics, optofluidic platforms, sensing and plasmonic platforms, spectroscopy. More than thirty invited speakers will enrich the conference presenting the activity of important European and international research groups. Also, a joint session with ICOB 2015 will take place in the afternoon of May 20th within the so-called "Florence Biophotonics Week".

We are confident that between abstracts, technical sessions, food and city tours, all participants will contribute to lead a very rewarding conference.

Have a great time in Florence at IEEE BioPhotonics2015!

Roberto Pini
Stefano Selleri

CONFERENCE CHAIRS

Roberto Pini, Institute of Applied Physics - CNR Florence (Italy)
Stefano Selleri, Chair of IEEE Photonics Society, Italy Chapter, University of Parma (Italy)

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Giovanna Diprima, IFAC - CNR Florence (Italy)
Chiara Liserani Von Berger, IFAC - CNR Florence (Italy)

Wednesday 20 May 2015

08.00 Registration
08.45 Welcome

PLENARY I - AULA MAGNA

08.55: We1.1(*Invited*) **4D Nanoscopy 2.0. A Great Immediate Challenge,**
A. Diaspro - *NanoBioPhotonics, Università di Genova, IIT, NIC@IIT, Genova (Italy)*
09.20: We1.2(*Invited*) **Accelerating Progress in Light Sheet Microscopy,**
K. Dholakia - *SUPA, University of St. Andrews, Fife (UK)*
09.45: We1.3(*Invited*) **Quantitative Spectrally Resolved Optoacoustic Imaging**,
G. Held[1], T. Petrosyan[1], H.G. Akarçay[1], L. Ahnen[2], M. Wolf[2], M. Jaeger[1], M. Frenz[1] -
[1]University of Bern (Switzerland), [2]University of Zuerich (Switzerland)

10.10 COFFEE BREAK

Parallel Sessions (10.30 - 12.20)

WE2: SPECTROSCOPY AND IMAGING I
AULA MAGNA

10.30: We2.1(*Invited*) **Shedding New Light on Cells with Coherent Multiphoton Microscopy,** P. Borri - *Cardiff University (UK)*

10.55: We2.2(*Invited*) **Fluorescent Imaging of Tumor Metabolic State,** E. Zagaynova - *Nizhny Novgorod State medical academy, Nizhny Novgorod (Russia)*

11.20: We2.3 **Three-Dimensional Imaging of Entire Murine Intestine with Light Sheet Microscopy**, D. De Stefano[1], I. Sana[1], L. Maiuri[1], G. Simonutti[2], A. Candeo[2], G. Valentini[1], A. Bassi[2] - *[1]IERFC, Ospedale San Raffaele, Milano (Italy), [2]Politecnico di Milano (Italy)*

11.35: We2.4 **Multispot Multiphoton Ca^{2+} Imaging in Acute Myocardial Slices**, G. Borile[1], C. de Mauro[2], A. Urbani[1,4], D. Alfieri[2], F. S. Pavone[3], M. Mongillo[1,4] - *[1]University of Padova (Italy), [2]Light4Tech Firenze s.r.l., Scandicci (Italy), [3]University of Florence (Italy), [4]Venetian Institute of Molecular Medicine, Padova (Italy)*

WE3: DIAGNOSTICS AND THERAPEUTICS APPLICATIONS I
ROOM 2

10.30: We3.1(*Invited*) **Optical Assessment of Blood Microrheology in Norm, Disease and at Interaction with Nanoparticles,** A.V. Priezzhev[1], A.E. Lugovtsov[1], S.Yu. Nikitin[1], K. Lee[1], V.D. Ustinov[1], O.E. Fadyukov[1], M.D. Lin[1], V.B. Koshelev[1], Yu. I. Gurfinkel[2], M. Kinnunen[3], C.L. Cheng[4], E.V. Perevedentseva[4], A.V. Karmenyan[4,5] - *[1]Lomonosov Moscow State University, Moscow (Russia), [2]Research Clinical Center of JSC «Russian Railways», Moscow (Russia), [3]University of Oulu (Finland), [4]National Dong Hwa, University, Hualien (Taiwan),[5]National Yang-Ming University, Taipei (Taiwan)*

10.55: We3.2(*Invited*) **Optical Techniques for Distant Assessment of Human Skin**,
J. Spigulis - *University of Latvia, Riga (Latvia)*

11.20: We3.3 **Complex Optical Method of Cancer Detection and Visualization**, I. A. Bratchenko[1], D. N. Artemyev[1], O. O. Myakinin[1], J. A. Khristophorova[1], D. V.

11.50: We2.5 **Femtosecond Stimulated Raman Spectroscopy and Preliminary Steps for Nonlinear Microscopy**, A. D'Arco[1,2], M. Indolfi[1], M. A. Ferrara[1], L. Zeni[2], I. Rendina[1], L.Sirleto[1] - *[1]IMM - CNR Napoli (Italy), [2]Second University of Naples (Italy)*

12.05: We2.6 **Wavelet Filter for Femtosecond Stimulated Raman Spectroscopy: a New Approach Brings New Horizons**, M. Kloz[1,2], J. Weissenborn[1], Y. Hontani[1], J.T.M. Kennis[1]- *[1]VU University Amsterdam (Netherland), [2]Institute of Physics ASCR, v.v.i. (FZU), ELI - Beamlines Prague (Czech Republic)*

Kornilin[1], A. A. Moryatov[2], V. P. Zakharov[1], S. V. Kozlov[2] - *[1]Samara State Aerospace University (Russia), [2]Samara State Medical University (Russia)*

11.35: We3.4 **Laboratory Full-Field Transmission X-Ray Microscopy and Applications in Life Science**, C.Seim[1,2], A. Dehlinger[1,2], B. Kanngießer[1,3], K.Reineke[4], H. Stiel[1,2] - *[1]BLiX, Berlin (Germany), [2]Max - Born - Institut, Berlin (Germany), [3]Technische Universität Berlin (Germany), [4]Leibniz - Institut für Agrartechnik Potsdam (Germany)*

11.50: We3.5 **Towards Next Generation Time-Domain Devices for Increasing Depth Sensitivity in Diffuse Optics**, A. Farina[1], A. Dalla Mora[2], D. Contini[2], S. R. Arridge[3], F. Martelli[4], A. Tosi[2], G. Boso[2], T. Durduran[5], E. Martinenghi[2], A. Torricelli[2], A. Pifferi[1,2] - *[1]IFN - CNR Milan (Italy), [2]Politecnico di Milano (Italy), [3]University College London (UK), [4]Università di Firenze (Italy), [5]ICFO Barcelona (Spain)*

12.05: We3.6 **Field-Portable and Cost-Effective Devices for Biological and Chemical Assays**, A.M. Cucinotta[1], S. Selleri[1], A. Tonelli[2], A. Candiani[2], M. Sozzi[2] - *[1]University of Parma (Italy), [2]DNAPhone S.R.L., Parma (Italy)*

12.20 LUNCH

13.30 TRANSFER VILLA LA QUIETE

14.00 **Joint Session** ICOB - www.icob2015.org

19.15 TRANSFER DOWNTOWN FLORENCE

19.30 WELCOME COCKTAIL AT CAFFETTERIA DELLE OBLATE

21.00 **Special Event Celebrating the International Year of Light 2015:**
"From the telescope to the microscope"

Thursday 21 May 2015

08.00 Registration

PLENARY II - AULA MAGNA

08.30: Th1.1(*Invited*) **Biosensing with Silicon Photonics**, P. Bettotti[1], T. Chalyan[1], D. Gandolfi[1], M.R. Ghulinyan[2], R. Guider[1], L. Pasquardini[3], C. Pederzolli[3], G. Pucker[2], F.R. Manzano[1], A. Samusenko[2], M. Scarpa[1], L. Pavesi[1] - *[1]University of Trento (Italy), [2]Bruno Kessler Foundation, Trento (Italy), [3]LaBSSAH, Fondazione Bruno Kessler, Povo (Italy)*

08.55: Th1.2(*Invited*) **Compact Semiconductor Based Light Sources for Biophotonics**, P. Andersen - *Technical University of Denmark (Denmark)*

09.20: Th1.3(*Invited*) **Optimization of Metal Nano-Materials for the Development of LSPR-Based Optical Fibre Sensors**, T Sun[1], M.H. Tu[1], J. Cao[1], K.T.V. Grattan[1] - *[1]City University London (UK)*

09.45 COFFEE BREAK

Parallel Sessions (10.05 - 12.10)

TH2: DIAGNOSTICS AND THERAPEUTICS APPLICATIONS II
AULA MAGNA

10.05: Th2.1(*Invited*) **Corneal Transparency Light Scattering and Coherence Loss**, K. Plamann[1], F. Alahyane[1], E. Beaurepaire[2], Z. Essaïdi[1] - *[1]École polytechnique CNRS Palaiseau (France), [2]École polytechnique - CNRS - Inserm, 91128 Palaiseau (France)*

10.30: Th2.2(*Invited*) **Automatic Temperature Guided Retinal Photocoagulation**, R. Brinkmann[1,2], A. Baade[1,2], S. Koinzer[3], W. Schwarzer[1,2], K.Schlott[1,2], Y. Miura[2], J. Roider[3] - *[1]Medical Laser Center Lübeck (Germany), [2]University of Lübeck (Germany), [3]University of Kiel (Germany)*

10.55: Th2.3 **Gas in Scattering Media Absorption Spectroscopy for Sinusitis and Otitis Diagnostics**, H. Zhang[1], J. Huang[1], T. Li[1], H. Lin[1], K. Svanberg[1,2], S. Svanberg[1,2]- *[1]South China Normal University, Guangzhou (China), [2] Lund University (Sweden)*

TH3: SENSING AND OPTOFLUIDIC PLATFORMS
ROOM 2

10.05: Th3.1(*Invited*) **Photonics-Enhanced Polymer Optofluidic Chips: from High-Tech Prototyping Platform to Applications**, H. Ottevaere[1], D. De Coster[1], J. Van Erps[1], M. Vervaeke[1], H. Thienpont[1]- *[1]Vrije Universiteit Brussel, B-PHOT (Belgium)*

10.30: Th3.2(*Invited*) **Ultrasensitive DNA Detection by PNA - Modified Photonic Crystal Fibers (PCFs)**, R. Corradini[1] - *[1]Università di Parma (Italy)*

10.55: Th3.3 **Characterization of Sion Microring Resonators for Biosensing Applications**, T. Chalyan[1], D. Gandolfi[1], R. Guider[1], L. Pasquardini[2], A. Samusenko[2], C. Pederzolli[2], G. Pucker[2], L. Pavesi[1] - *[1]Nanoscience Laboratory, Trento (Italy), [2]Fondazione Bruno Kessler, Povo (Italy)*

11.10: Th3.4 **Optical Whispering Gallery Mode Microresonators for Biosensing**, D. Farnesi[1,2], F. Baldini[2], A. Barucci[2], S. Berneschi[2], A. Cosci[1,2],

11.10: Th2.4 **Fluorescence Spectroscopy of Blood Plasma of Patients with Diabetes Mellitus**, E. Shirshin[1], T. Tikhonova[1], V. Fadeev[1], A. Priezzhev[1] - *[1]M.V. Lomonosov Moscow State University (Russia)*

11.25: Th2.5 **Estimation of Tissue Optical Properties Between Different Grades and Stages of Urothelial Carcinoma Using Reflectance Spectroscopy**, S. Anand[1], R. Cicchi[1,2], F. Martelli[3], A. Crisci[4], G. Nesi[4], M. Carini[4], F. S. Pavone[1,2,3] - *[1]LENS, University of Florence (Italy), [2]INO - CNR, Florence (Italy), [3]Department of Physics, University of Florence (Italy), [4]Division of Urology, University of Florence (Italy)*

11.40: Th2.6 **Characterization of Tumour Laser Ablation Probes with Temperature Measuring Capabilities**, Y. Liu[1], H. Yu[1], R. Gassino[1], A. Braglia[1], M. Olivero[1], D. Tosi[2], A. Vallan[1], G. Perrone[1] - *[1]Politecnico di Torino (Italy), [2]Nazarbayev University, Astana (Kazakhstan)*

11.55: Th2.7 **CO_2 and Nd:YAP Lasers Irradiation on CAD/CAM Ceramics: SEM EDS and Thermal Studies**, A. El Gamal[1], C. Fornaini[1,2], J. P. Rocca[1], O. Muhamad[1], E. Medioni[1], A.M Cucinotta[2], N. Brulat Bouchard[1] - *[1]University of Nice Sophia Antipolis, Nice (France), [2]University of Parma (Italy)*

12.10 **POSTER SESSION I - FIRST FLOOR**

13.10 LUNCH

14.00 **EXHIBITOR SHOWCASE - ROOM 2**

F. Cosi[2], A. Giannetti[2], G. NunziConti[2], S. Pelli[1,2], G.C. Righini[1,2], S. Soria[2], S. Tombelli[2], C. Trono[2] - *[1]Enrico Fermi Center, 00184 Rome (Italy) [2]IFAC - CNR, Florence (Italy)*

11.25: Th3.5 **Hybrid Silicon - PDMS Optofluidic Ring Resonator**, G. Testa[1], I.A. Grimaldi[1], G. Persichetti[1], R. Bernini[1] - *[1]IREA - CNR, Naples (Italy)*

11.40: Th3.6 **Development of A Fluorescence - Based Optical Sensor for Nucleic Acid Detection**, K. Tragni[1], A. Cucinotta[1], S. Selleri[1], A. Tonelli[1], A. Candiani[1], M. Sozzi[1] - *[1]University of Parma (Italy)*

Parallel Sessions (14.00 - 15.35)

TH4: INTEGRATED OPTICAL DEVICES
AULA MAGNA

14.00: Th4.1(*Invited*) **Red Blood Cell as Optfluidic Tuneable Lens**, F. Merola[1], L. Miccio[1], P. Memmolo[1,2], P. Netti[2], P. Ferraro[1] - *[1]ICIB - CNR, Pozzuoli (Italy), [2]IIT, Napoli (Italy)*

14.25: Th4.2(*Invited*) **Fiber Based and Fiber Lasers Sources for Medical Applications**, S.Taccheo[1]- *[1]Swansea University (UK)*

14.50: Th4.3 **Integrated III-V Semiconductor Platform with Capillary Fill Micro-Fluidics for Chip-Based Flow Cytometry**, R. Thomas[1], M.D. Holton[2], S. Gilgrass[1], A. Sobiesierski[1], P.M. Smowton[1], H.D. Summers[2] and D. Barrow[1] - *[1]Cardiff University (UK), [2]Swansea University (UK)*

15.05: Th4.4 **A Parallel Microfluidic Device for Hydrodynamic Focusing of Acute Lymphoid Leukemia Cells**, S.Torino[1], M. Iodice[1], I. Rendina[1], G. Coppola[1], E. Schonbrun[2], D. Passaro[1] - *[1]IMM - CNR Naples (Italy), [2]Harvard University, Cambridge MA (USA)*

15.20: Th4.5 **Amorphous Silicon Photodiodes as a New Platform for Chemiluminescent Lateral Flow Immuneassay Quantitative Detection**, M. Mirasoli[1], G. De Cesare[2], L. Anfossi[3], D. Caputo[2], A. Nascetti[2], M. Zangheri[1], F. Di Nardo[3], C. Baggiani[3], A. Roda[1]- *[1]University of Bologna (Italy), [2]Sapienza University of Rome (Italy), [3]University of Turin (Italy)*

15.35 COFFEE BREAK

TH5: MODELING
ROOM 1

14.00: Th5.1(*Invited*) **Cloud Monte Carlo Based Platform for the Needs of Biophotonics and Biomedical Optics**, I. Meglinski[1,2], S. Jacques[3], A. Doronin[1] - *[1]University of Otago, Dunedin (New Zealand), [2]University of Oulu (Finland), [3]Oregon Health & Science University, Portland, OR (USA)*

14.25: Th5.2(*Invited*) **New Methods for Acquiring The 3-D Structure and Contents of Live Cells without Labeling**, N. T. Shaked[1] and M. Habaza[1] - *[1]Tel - Aviv University (Israel)*

14.50: Th5.3 **An Eigenmode Expansion Method for Rigorous Simulations of Light Scattering From Living Cells**, J. Petráček[1,2], Y. Eksioglu[1], R. Chmelík[1,2] - *[1]Brno University of Technology (Czech Republic), [2]CEITEC, Brno (Czech Republic)*

15.05: Th5.4 **Photodynamic Therapy: Good News from Computational Approaches**, N. Russo[1], M. E. Alberto[1], G. Mazzone[1], B. C. De Simone[1], T. Marino[1], E. Sicilia[1] - *[1]Università della Calabria, Rende (Italy)*

15.20: Th5.5 **Analysis of Light Transport Phenomena in Photosynthetic Microbial Cultures**, H. Asgharnejad[1], M. Sarrafzadeh[1], R. Zarghami[1] - *[1]University of Tehran (Iran)*

Parallel Sessions (16.00 - 17.20)

TH6: NANO BIOPHOTONICS I
AULA MAGNA

16.00: Th6.1(*Invited*) **Ultrapure Laser-Synthesized Nanomaterials for Biomedical Applications**, A.V. Kabashin[1] - [1]*Aix - Marseille University (France)*

16.25: Th6.2(*Invited*) **Plasmon and Plasmon-Like Nanophotonics for Biosensing**, I. Rendina[1] - *[1]IMM - CNR, Naples (Italy)*

16.50: Th6.3 **Nanophotonic Lab-on-a-Chip Raman Sensors: a Sensitivity Comparison with Confocal Raman Microscope**, A. Dhakal[1], P. Wuytens[1], F. Peyskens[1], A. Subramanian[1], A. Skirtach[1], N. Le Thomas[1], R. Baets[1] - *[1]Ghent University (Belgium)*

17.05: Th6.4 **Characterization of ZnSe/ZnS QD Conjugated with Antibody Labeling Kisspeptins**, A. Drobintseva[1], V. Polyakova[1], L. Matyushkin[2], Y. Krylova[1], D. Masing[2], O. Aleksandrova[2], V. Moshnikov[2], S. Musikhin[3], I. Kvetnoy[1] - *[1]Ott Institute of Obstetrics Gynecology and Reproductology, Saint Petersburg (Russia), [2]Electrotechnical University, Saint Petersburg (Russia), [3]Polytechnical University, Saint Petersburg (Russia)*

TH7: SENSING AND PLASMONICS I
ROOM 1

16.00: Th7.1(*Invited*) **Advanced Surface Plasmon Resonance Imaging Methods for Genomic Dna Detection**, R. D'Agata[1], M. Calcagno[2], G. Breveglieri[3], M. Borgatti[3], R. Gambari[3], G. Spoto[1,2] - *[1]University of Catania (Italy), [2]INBB Consortium, Rome (Italy), [3]University of Ferrara (Italy)*

16.25: Th7.2(*Invited*) **Molecular Switches for Sensing in Cells: Let's Light Up The "Dark Matter" of the Genome**, A. Giannetti[1], B. Adinolfi[1], S. Tombelli[1], C. Trono[1], F. Baldini[1] - *[1]CNR - IFAC, Florence (Italy)*

16.50: Th7.3 **Correlative TERS Imaging of B. Subtilis Spores**, G. Rusciano[1], G. Zito[1], R. Isticato[1], T. Sirec[1], E. Ricca[1], A. Sasso[1] - *[1]University of Naples Federico II (Italy)*

17.05: Th7.4 **Versatile in Vivo Optogenetic Stimulation with Microstructured and Tapered Optical Fibers**, F. Pisanello[1], L. Sileo[1], I. A. Oldenburg[2], M. Pisanello[1,3], J. A. Assad[2,4], B. L. Sabatini[2], M. De Vittorio[1,3] - *[1]IIT Lecce (Italy), [2]Harvard Medical School, Boston, MA (USA), [3]Università del Salento, Lecce (Italy), [4]IIT Rovereto (Italy)*

17.30 TRANSFER DOWNTOWN FLORENCE

18.15 CITY TOUR (1h)

20.00 SOCIAL DINNER AT RESTAURANT "LO SPACCIO" FATTORIA DI MAIANO

Friday 22 May 2015

08.00 Registration

PLENARY III - AULA MAGNA

08:30: Fr1.1(*Invited*) **Applications of Laser Spectroscopy to Meet Challenges in Medicine**, K. Svanberg[1,2] - *[1]Lund University (Sweden), [2]South China Normal University, Guangzhou (China)*

08:55: Fr1.2(*Invited*) **Tissue Optical Clearing: New Prospects in Optical Imaging and Therapy**, V. Tuchin[1,2,3] - *[1]National Saratov State University, Saratov (Russia), [2]Russian Academy of Sciences, Saratov (Russia), [3]University of Oulu (Finland)*

09:20: Fr1.3(*Invited*) **Coherent Hemodynamics Spectroscopy for Quantitative Measurements of Cerebral Blood Flow and Autoregulation**, S. Fantini[1], A. Sassaroli[1], J.M. Kainerstorfer[1], K.T. Tgavalekos[1] - *[1]Tufts University, Medford, MA (USA)*

09:45 COFFEE BREAK

Parallel Sessions (10.05 - 11.55)

FR2: SPECTROSCOPY AND IMAGING II
AULA MAGNA

10.05: Fr2.1(*Invited*) **Human Microcirculation Imaging**, M.J. Leahy[1], R. Dsouza[1], S. O'Gorman[1], A. Breathnach[1], H. Zafar[1], H. Subhash[1]- *[1]National University of Ireland, Galway (Ireland)*

10.30: Fr2.2(*Invited*) **Biophotonics and Molecular Imaging: Looking at Biological Function and Disease from Cells to Whole Organisms**, S. Psycharakis[1], E. Liapis[1], A. Zacharopoulos[1], G. Zacharakis[1] - *[1]Institute of Electronic Structure and Laser, Heraklion Crete (Greece)*

10.55: Fr2.3 **Mobile Platform for Online Processing of Multimodal Skinoptical Images**, D. Bliznuks[1], D. Jakovels[1], I. Saknite[1], J. Spigulis [1] -*[1]University of Latvia, Riga (Latvia)*

11.10: Fr2.4 **Importance of Image Processing in Digital Optical Capillaroscopy for Early Diagnostics of Arterial Hypertension**, Yu.I. Gurfinkel[1], A.V. Priezzhev[2], M.I.

FR3: MICROSCOPY
ROOM 2

10.05: Fr3.1(*Invited*) **In Situ Quantitation of Collagen Fibrils Size Via Absolute Measurements of Shg Signals**, S. Bancelin[1], C. Aimé[2], I. Gusachenko[1], L. Kowalczuk[2], G. Latour[1], T. Coradin[2] M.C. Schanne Klein[1] - *[1]École Polytechnique, Palaiseau (France), [2]Sorbonne Universités, Paris (France)*

10.30: Fr3.2(*Invited*) **Optical Brain Imaging**, L. Allegra Mascaro[1] - *[1]Lens - University of Florence (Italy)*

10.55: Fr3.3 **Lens-Less Microscopy Combined with Capillary Force Assembly for Systematic Particle Detection**, O. Lecarme[1,2], A. Léonard[1,2], J. Cordeiro[1,2], E. Picard[3], D. Peyrade[1,2] - *[1]Universités Grenoble Alpes, Grenoble (France), [2]CEA, LETI, LTM - CNRS, MINATEC Campus, Grenoble (France), [3]CEA, INAC - SP2M, SiNaPS, MINATEC Campus, Grenoble (France)*

11.10: Fr3.4 **Spectral Detection of Accumulation of a Ph-Activatable Fluorescent Probe in Dendritic**

Kuznetzov[1] - *[1]Research Clinical Center of JSC, Moscow (Russia), [2]Moscow State University (Russia)*

11.25: Fr2.5 **Benign-Atypical Nevi Discrimination Using Diffuse Reflectance and Fluorescence Multispectral Imaging System**, D. Jakovels[1], I. Saknite[1], D. Bliznuks[1], J. Spigulis[1] - *[1]University of Latvia, Riga (Latvia)*

11.40: Fr2.6 **Development of a Time-Resolved Diffuse Optical Tomography System Based on a Single Pixel Camera**, A. Farina[1], M. Betcke[2], L. Di Sieno[3], A. Dalla Mora[3], N. Ducros[4], G. Valentini[1,3], A. Pifferi[1,3], S. Arridge[2], C. D'Andrea[3,5] - *[1]IFN - CNR, Milano (Italy), [2]University College London (UK), [3]Politecnico di Milano (Italy), [4]Université de Lyon, Villeurbanne (France), [5]IIT, Milan (Italy)*

Cells, Z. Arsov[1,2], U. Švajger[3], J. Mravljak[4], S. Pajk[4], I. Urbančič[1], J. Štrancar[1,2], M. Anderluh[4] - *[1]Jozef Stefan Institute, Ljubljana (Slovenia), [2]Center of Excellence NAMASTE, Ljubljana (Slovenia), [3]Blood Transfusion Centre of Slovenia, Ljubljana (Slovenia),[4]University of Ljubljana (Slovenia)*

11.25: Fr3.5 **Fluorescence Microspectroscopy Insight into Membrane Disintegration Driven by Titanium Dioxide Nanoparticles**, M. Garvas[1,2], I. Urbančič[1], A. Testen[1], P. Umek[1,3], M. Škarabot[1], Z. Arsov[1,3], T. Koklič[1,3], I. Muševič[1,4], J. Štrancar[1,2] - *[1]J. Stefan Institute, Ljubljana (Slovenia), [2]Jozef Stefan International postgraduate school, Ljubljana (Slovenia), [3]Center of excellence NAMASTE, Ljubljana (Slovenia), [4]University of Ljubljana, Ljubljana (Slovenia)*

12.00 **POSTER SESSION II- FIRST FLOOR**

13.00 LUNCH

Parallel Sessions (14.00 - 15.35)

FR4: SENSING AND PLASMONIC PLATFORMS II

AULA MAGNA

14.00: Fr4.1(*Invited*) **Surface Plasmon Resonance Biosensors to Detect Autoantibodies in Human Plasma - Potentials for Diagnostic Applications**, P. B. Luppa[1] - *[1]Institut für Klinische Chemie und Pathobiochemie, München (Germany)*

14.25: Fr4.2(*Invited*) **Opportunities with Light - Responsive Plasmonic Nanomaterials and Graphene in Therapy and Sensing**, P. Matteini[1], F. Ratto[1], F. Rossi[1], M. de Angelis[1], M. Banchelli[1], L. Cavigli[1], S. Centi[1], F. Tatini[1], R. Pini[1] - *[1]IFAC - CNR Florence (Italy)*

14.50: Fr4.3 **Towards Personalized Snps Screening by Spr Biosensing: Recent Strategies and Achievements**, S. Scarano[1], S. Mariani[1], M.L. Ermini[1], R. Barale[2], M. Bonini[1,3], M. Minunni[1,3] - *[1]University of Florence (Italy), [2]University of Pisa (Italy), [3]CSGI Consortium, Florence (Italy)*

15.05: Fr4.4 **"Lab-on-Fiber Technology" for the Real Time Cancer Marker Detection: Developing an Innovative Local Spr Based Optical Fiber Biosensor**, R. Severino[1], A. Ricciardi[1], G. Quero[1], B. Carotenuto[1], M. Consales[1], A. Crescitelli[2], E. Esposito[2], M. Ruvo[3], A. Sandomenico[3], A. Borriello[4], L. Sansone[4], A. Cutolo[1], A. Cusano[1] - *[1]University of Sannio, Benevento (Italy), [2]IMM - CNR Napoli (Italy), [3]IBB - CNR Napoli (Italy), [4]IMCB - CNR Napoli (Italy)*

15.20: Fr4.5 **Voltage Sensitivity of Surface Plasmon Resonance for Biological Applications**, S. Abayzeed[1], R. Smith[1], K. Webb[1], M. Somekh[2], C. See[1] - *[1]University of Nottingham (UK), [2]The Hong Kong Polytechnic University, Hung Hom, Kowloon (Hong Kong)*

FR5: DIAGNOSTIC AND THERAPEUTIC APPLICATIONS III

ROOM 2

14.00: Fr5.1(*Invited*) **Functional Optical Coherence Tomography on Human Skin with Cellular Resolution**, T. S. Ho[1], J. W. Tjiu[2], M. T. Chien[1], D.Y. Wu[1], C.K. Chang[1], P.S. Yeh[3], Y. I. Liệ, C. T. Shun[1], S.L. Huang[1] - *[1]National Taiwan University, Taipei (Taiwan), [2] National Taiwan University Hospital, Taipei (Taiwan), [3]National Taiwan University of Science and Technology, Taipei (Taiwan)*

14.25: Fr5.2(*Invited*) **Dynamic Imaging of Human Eye Accommodation with Optical Coherence Tomography**, M. Ruggeri[1], V. Hernandez[1,2], S. Williams[1,2], C. de Freitas[1], F. Cabot[1], N. Yesilirmak[1], F. Manns[1,2], J. - *M. Parel[1,2]-[1]Bascom Palmer Eye Institute, Miami, FL (USA), [2]University of Miami, FL (USA)*

14.50: Fr5.3 **Antimicrobial Effect on Candida Albicans by Different Coupling of Wavelenghts and Colors in Photodynamic Therapy Protocols**, E. Merigo[1], S. Conti[1], T. Ciociola[1], C. Fornaini[1], L. Polonelli[1], G. Lagori[1], M. Manfredi[1], P. Vescovi[1]-*[1]University of Parma (Italy)*

15.05: Fr5.4 **Light-Emitting Capsule for Intra-Gastric Photodynamic Therapy**, G. Romano[1], F. Cubeddu[2], B. Orsini[1], G. Tortora[2], M. Monici[3], E. Surrenti[4], C. Surrenti[1], A. Menciassi[1] , F. Fusi[1] - *[1]University of Florence (Italy), [2]Scuola Superiore Sant'Anna, Pisa (Italy), [3]ASA, Florence (Italy), [4]ASL 10, Florence (Italy)*

15.20: Fr5.5 **Micro-Raman Spectroscopy During Orthodontic Tooth Movement: Follow-Up of Gingival Status**, C. Camerlingo[1], F. d'Apuzzo[2], V. Grassia[2], G. Parente[2], L. Perillo[2], M. Lepore[2] - *[1]SPIN - CNR, Pozzuoli (Italy), [2]Seconda Università di Naples (Italy)*

15.35 COFFEE BREAK

Parallel Sessions (16.00 - 17.25)

FR6: FOOD
AULA MAGNA

16.00: Fr6.1(*Invited*) **Smart Sensors for Food Safety: Opportunities and Challenges**, C. Dall'Asta[1] - *[1]University of Parma (Italy)*

16.25: Fr6.2 **Si-based Monolithic Poylchromatic Young Interferometeras an Enabling Tool for Point-of-Need Food Safety Determinations**, K. Misiakos[1], P. Petrou[2], S. Kakabakos[2], A. Salapatas[1], A. Botsialas[3], I. Raptis[3], I. Kylintirea[4], T. Sarafidis[4], A. Lambidonis[5], A. Varouxis[6], E. Makarona[1] - *[1]Institute of Nanoscience and Nanotechnology, NCSR "Demokritos", Athens (Greece), [2]Institute of Nuclear and Radiological Sciences & Energy, Safety and Environment, NCSR "Demokritos", Athens (Greece), [3]ThetaMetrisis S.A., Egaleo (Greece),[4]Technology Solutions S.A., Elliniko (Greece), [5]Food Allergens Laboratory, Rethymno (Greece), [6]Provirom Ltd, Elefsina (Greece)*

16.40: Fr6.3 **Nondestructive Assessment of Apple Optical Properties During Growth by Time Resolved Reflectance Spectroscopy in the Orchard**, A. Torricelli[1], D. Fleury[2], J. Giesser[2], R. Pasche[2], J. Kaethner[3], M. Zude[3], L. Spinelli[4] - *[1]Politecnico di Milano (Italy), [2]Hes - so, Changins, Nyon (Switzerland), [3]Leibniz Institute for Agricultural Engineering Potsdam - Bornim (Germany),[4]IFN - CNR Milan (Italy)*

16.55: Fr6.4 **Multilayer Integrated Structure for Selective Detection of Ochratoxin A**, D. Caputo[1], E. Parisi[1], M. Carpentiero[1], F. Pavanello[2], M. Tucci[3], A. Nascetti[4], G. de Cesare[1] - *[1]DIET University of Rome "La Sapienza" (Italy),[2]Automation s.r.l. Abbiategrasso, Milano (Italy), [3]ENEA, Rome*

FR7: NANO BIOPHOTONICS II
ROOM 2

16.00: Fr7.1(*Invited*) **Magnetite Nanoparticles for Optical Diagnostics and Laser Regeneration of Cartilage**, E. Sobol[1], A. Omelchenko[1], Y. Soshnikova[1] - *[1]Russian Academy of Sciences, Troitsk (Russia)*

16.25: Fr7.2 **Plasmon-Resonant Nanostars with Variable Sizes as Contrast Agents for Optical Coherence Tomography and Confocal Microscopy**, O. Bibikova[1,2], A. Fales[3], H. Yuan[3], A. Popov[1,2], A. Bykov[1,2], M. Kinnunen[1], V. Bogatyrev[2,4], K. Kordas[1], T. Vo Dinh[3], V. Tuchin[1,2,4] - *[1]University of Oulu (Finland), [2]Saratov State University (Russia), [3]Duke University, Durham (USA),[4]Russian Academy of Sciences, Saratov (Russia)*

16.40: Fr7.3 **Diatomite Nanoparticles as Potential Drug Delivery Systems**, M. Terracciano[1,2], A. Lamberti[2], H.A.Santos[3], N.M. Martucci[2], M.A. Shahbazi[3], A. Correira[3], I. Ruggiero[2], I. Rendina[1], L. De Stefano[1], I. Rea[1] - *[1]IMM - CNR Naples (Italy), [2]University of Naples Federico II (Italy), [3]University of Helsinki (Finland)*

16.55: Fr7.4 **Raman Imaging for the Intracellular Label - Free Detection and Study of Drug Nanocarriers and Graphene Nanoparticles**, R. Vanna[1], F. Valentini[2], C. Morasso[1], A. Boaretto[2,3], L. Pandolfi[4], P. Verderio[4], S. Picciolini[1], A. Gualerzi[1], M. Bedoni[1], D. Prosperi[4], F. Gramatica[1] - *[1]Fondazione Don Carlo Gnocchi, Milan (Italy), [2]Dip. di Scienze e Tecnologie Chimiche, Rome (Italy), [3]CAPES Foundation, Brasilia (Brazil), Università di Milan-Bicocca (Italy)*

(Italy),[4]DIAEE University of Rome "La Sapienza" (Italy)

17.10: Fr6.5 **Non-Destructive Fluorescence Sensing for Applications in Precision Viticulture**, L. Tuccio[1], G. Grassini[2], G. Agati[1] - *[1]IFAC - CNR Florence (Italy), [2]Centro Analisi C.A.I.M., Follonica (Italy)*

17.10: Fr7.5 **Strategies for Gold Nanorods Targeting of Tumors for Optical Hyperthermia**, S. Centi[1], F. Ratto[1], F. Tatini[1], I. Landini[2], S. Nobili[2], E. Witort[2], G. Romano[2], F. Fusi[2], S. Capaccioli[2], E. Mini[2], R. Pini[1] - *[1]IFAC - CNR Florence (Italy), [2]University of Florence (Italy)*

17.25 Closing Remarks

Wednesday 20 May 2015

08.00 Registration
08.45 - 09.45
PLENARY I - AULA MAGNA
10.10 Coffee Break
10.30 - 12.05 Parallel Sessions
WE2: SPECTROSCOPY AND IMAGING I
AULA MAGNA
WE3: DIAGNOSTICS AND THERAPEUTICS APPLICATIONS I - ROOM 2
12.20 Lunch
13.30 Transfer Villa La Quiete
14.00 JOINT SESSION ICOB
18.45 Transfer Florence downtown
19.30 Welcome Cocktail
21.00 IYL 2015 Event

Thursday 21 May 2015

08.00 Registration
08.30 - 09.20
PLENARY II - AULA MAGNA
09.45 Coffee Break
10.05 - 11.55 Parallel Sessions
TH2: DIAGNOSTICS AND THERAPEUTICS APPLICATIONS II - AULA MAGNA
TH3: SENSING AND OPTOFLUIDIC PLATFORMS - ROOM 2
12.10 POSTER SESSION I
13.10 Lunch
14.00 EXHIBITOR SHOWCASE - ROOM 2
14.50 - 15.20 Parallel Sessions
TH4: INTEGRATED OPTICAL DEVICES
AULA MAGNA
TH5: MODELING - ROOM 1
15.35 Coffee Break
16.00 - 17.05 Parallel Sessions
TH6: NANO BIOPHOTONICS I - AULA MAGNA
TH7: SENSING AND PLASMONIC PLATFORMS I - ROOM I
17.30 Transfer Florence Downtown
18.15 City Tour
20.00 Social Dinner

Friday 22 May 2015

08.00 Registration
08.30 - 09.20
PLENARY III - AULA MAGNA
09.45 Coffee break
10.05 - 11.40 Parallel Sessions
FR2: SPECTROSCOPY AND IMAGING II - AULA MAGNA
FR3: MICROSCOPY - ROOM 2
12.00 POSTER SESSION II
13.00 Lunch
14.00 - 15.20 Parallel Sessions
FR4: SENSING AND PLASMONIC PLATFORMS II
AULA MAGNA
FR5: DIAGNOSTIC AND THERAPEUTIC APPLICATIONS III - ROOM 2
15.35 Coffee Break
16.00 - 17.10 Parallel Sessions
FR6: FOOD - AULA MAGNA
FR7: SENSING AND PLASMONIC PLATFORMS I
ROOM 2
17.25 Closing Remarks

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