Aim and objectives

The conference aims to update participants on innovative microscopic equipment which, by correlating the various features of optical and electron microscopy, can maximize the potential applications of morphological and ultrastructural methods. The conference will address the limits of sample preparation, the optimization of image processing, and the critical analysis of experimental results with different materials.

SPEAKERS AND CHAIRPERSONS

Cristiano Albonetti National Research Council - ISMN, Bologna, Italy
Roberto Balboni National Research Council - IMM, Bologna, Italy
Edoardo Bemporad University "Rome III", Rome, Italy
Luca Boarino National Institute of Metrological Research, Turin, Italy
Annarica Calcabrini Istituto Superiore di Sanità, Rome, Italy
Katia Cortese University of Genoa, Italy
Marco Crescenzi Istituto Superiore di Sanità, Rome, Italy
Alberto Diaspro Italian Institute of Technology, Genoa, Italy
Elisabetta Falcieri University of Urbino, Italy
Maura Francolini University of Milan, Italy
Mauro Gemmi Italian Institute of Technology, Pisa, Italy
Bruno M. Humbel University of Lausanne, Switzerland
Lars-Oliver Kautschor Zeiss, Oberkochen, Germany
Emine Korkmaz Fei-Thermo Fisher, Eindhoven, The Netherlands
Vratislav Kostal Tescan, Brno, Czech Republic
Frederic Leroux Leica Microsystems, Germany
Alberto Luini National Research Council, Naples, Italy
Manuela Malatesta University of Verona, Italy
Alexandre A. Mironov Institute of Molecular Oncology, Milan, Italy
Agnese Molinari Istituto Superiore di Sanità, Rome, Italy
Amelia Montone Research Center ENEA, Rome, Italy
Ria Oosterveld Phenom-world, The Netherlands
Roman Polishchuk Telethon Institute of Genetics and Medicine, Naples, Italy
Andy Yarwood Jeol, London, United Kingdom
Annarita Stringaro Istituto Superiore di Sanità, Rome, Italy
Daniela Uccelletti University "La Sapienza", Rome, Italy
Marco Vittori Antisari NanoItaly Association, Rome, Italy

SCIENTIFIC COORDINATOR

Stefania Meschini
+39 06 49902783 - stefania.meschini@iss.it
National Center for Drug Research and Evaluation
Istituto Superiore di Sanità

SCIENTIFIC SECRETARIAT

Maria Condello
+39 06 49903610 - maria.condello@iss.it
National Center for Drug Research and Evaluation
Istituto Superiore di Sanità

Evelin Pellegrini
+39 06 49902783 - evelin.pellegrini@guest.iss.it
National Center for Drug Research and Evaluation
Istituto Superiore di Sanità

Sara Salucci
+ 39 0722 304248 - sara.salucci@uniurb.it
Università degli Studi di Urbino "Carlo Bo"

ORGANIZING SECRETARIAT

Paola Ruggeri
+ 39 06 49904250 - paola.ruggeri@iss.it
National Center for Drug Research and Evaluation
Istituto Superiore di Sanità

Laura Toccacieli
+39 06 49903406 - laura.toccacieli@iss.it
National Center for Drug Research and Evaluation
Istituto Superiore di Sanità

Giuseppe Formisano
+39 06 49902783 - giuseppe.formisano@iss.it
National Center for Drug Research and Evaluation
Istituto Superiore di Sanità

GENERAL INFORMATION

Venue:
Istituto Superiore di Sanità, Aula Bovet, Viale Regina Elena 299 - 00161 Rome, Italy

Target audience:
biologists, medical doctors, physicists, engineers, researchers and technicians.

Maximun number of participants: 90

ECM credits: NO

Grafica di Cosimo Marino Curianò SAE-ISS

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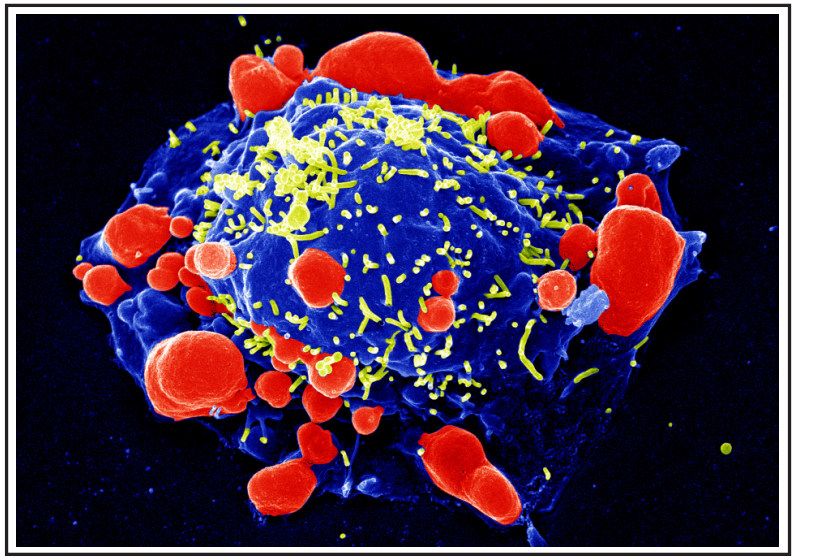

CORRELATIVE MICROSCOPY IN LIFE AND MATERIALS SCIENCES

6-7 November 2017

Aula Bovet

organized by

Istituto Superiore di Sanità - ISS
and Italian Society for Microscopical Sciences - SISM

Programme

Monday, November 6th

08.30 Registration

09.00 Opening Ceremony
Prof. Walter Ricciardi, ISS President
Dr. Patrizia Popoli, Director of National Center for Drug Research and Evaluation
Prof. Elisabetta Falcieri, SISM President
Dr. Stefania Meschini, ISS Scientific Coordinator of the event

I SESSION
09.30 **Correlative microscopy: principles and application potential**
Chairs: ***Marco Vittori, Elisabetta Falcieri***

09.30 **Keynote Lecture**
Correlative light and electron microscopy in biology
Bruno M. Humbel

10.00 Applications for 3D characterization in the life sciences. Illumination correlative research using light, X-ray, and electron microscopy
Lars-Oliver Kautschor

10.20 Correlative imaging workflows across scales: a powerful approach for cell and tissue studies
Emine Korkmaz

10.40 Coffee break

11.10 Investigating cancer cell behaviour using correlative imaging by holographic microscopy and FIB-SEM tomography
Vratislav Kostal

11.30 The integrated CLEM desktop microscope for easy and fast correlative imaging
Ria Oosterveld

11.50 New solutions for correlative microscopy
Andy Yarwood

12.10 Preparation workflows for correlation microscopy
Frederic Leroux

12.30 Lunch

II SESSION
13.30 **Correlative microscopy applications in materials sciences**
Chairs: ***Amelia Montone, Roberto Balboni***

13.30 **Keynote Lecture**
Correlative Microscopy as a powerful tool for coupling structural compositional and functional properties
Edoardo Bemporad

14.00 A case study of correlative approach to 3D microscopy: the silicon nanowires
Luca Boarino

14.30 Curvature driven nanoparticles decoration of graphene membranes
Cristiano Albonetti

15.30 Evaluation of antimycotic activity of zinc oxide nanoparticles by correlative microscopy
Daniela Uccelletti

16.00 Selected Talks

16.50 Discussion

Tuesday, November 7th

I SESSION
09.00 **Correlative microscopy applications in life sciences**
Chairs: ***Agnese Molinari, Marco Crescenzi***

09.00 **Keynote Lecture**
Correlative microscopy in biomedicine: from the slow beginning decades ago to the rapidly expanding leading edge of today
Alberto Luini

09.30 Correlative electron microscopy in modern bio-medical research
Roman Polishchuk

10.00 Compatibility of correlative light and electron microscopy with three-dimensional and quantitative analysis in biology
Alexandre A. Mironov

10.30 Correlative X-ray micro tomography and TEM microscopy on biological samples for the study of complex pathologies
Mauro Gemmi

11.00 Coffee break

II SESSION
11.30 **Correlative microscopy applications in life sciences**
Chairs: ***Annarica Calcabrini, Annarita Stringaro***

11.30 **Keynote Lecture**
The extraordinary microscope: multimodal and correlative approaches in nanomedicine
Alberto Diaspro

12.00 3D HDO-CLEM: cellular compartment analysis by correlative light-electron microscopy on cryosections
Katia Cortese

12.30 New tools and protocols for correlative microscopy application to biomedical research
Maura Francolini

13.00 Lunch

14.00 Visualizing fluorochrome-labelled nanoparticles and fluorescent free molecules at transmission electron microscopy by diaminobenzidine photo-oxidatidation
Manuela Malatesta

14.30 Selected Talks

15.30 Discussion and Closing Remarks