



## **CORRELATIVE MICROSCOPY IN LIFE SCIENCE**

From CLEM to 3D and Cryo Correlative Workflows  
*Programma "ZEISS on your Campus"*

Location:

**TIGEM Telethon Institute of Genetics and Medicine**

Via Campi Flegrei 34, 80078 Pozzuoli (NA)

Data: 19-20 Novembre 2019

### **Programma Scientifico**

Il workshop tratterà le tematiche della microscopia correlativa multiscala, multidimensionale e multimodale, dall'ottica all'elettronica, ionica e raggi X, nei vari ambiti delle Scienze della Vita. Saranno presentate alcune metodiche di preparativa del campione per CLEM e verrà discusso come la microscopia correlativa aiuti a rispondere a quesiti biologici fondamentali. Infine, saranno illustrate nuove soluzioni di microscopia digitale e in cloud, oltre a nuove tecnologie e applicazioni in grado di portare la microscopia correlativa ad un nuovo livello, dove la combinazione fra nanotomografia FIBSEM, microscopia a raggi X e imaging MultiSEM consente l'analisi di campioni biologici relativamente grandi a risoluzione nanometrica. Il programma del workshop verrà condiviso al più presto e prevede, fra gli altri argomenti:

#### **19 Novembre**

- CLEM – Correlative Light and Electron Microscopy
- New Lattice SIM (structured Illumination Microscopy) Super Resolution
- Correlative 2D and 3D workflows e casi di studio
- Correlative Nanotomography: X-Ray Microscopy, FIBSEM e come rilocalizzare un volume di interesse all'interno di un campione tridimensionale
- Altro

#### **20 Novembre**

- Metodiche di preparazione dei campioni
- Cryo-Correlative Microscopy
- Soluzioni di Microscopia Digitale: piattaforme per Connected Microscopy e cloud based per analisi di immagine
- Casi di studio
- Altro

*English version see below*



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When: November 19<sup>th</sup>-20<sup>th</sup>, 2019

### **Scientific Program**

The workshop deals with multiscale, multidimensional and multimodal correlative microscopy, from light to electron, ion and X-ray, in the various areas of Life Sciences. We will present several workflows of sample preparation for CLEM and will illustrate how correlative microscopy helps to answer fundamental biological questions. Finally, we will present new digital and cloud-based microscopy solutions, new technologies and applications able to bring correlative microscopy to a new level, where the combination of FIBSEM nanotomography, X-ray microscopy and MultiSEM imaging will allow fairly large biological specimens to be visualized at nanometric resolution.

We will share the program as soon as possible. The topics will include:

#### **November 19th**

- CLEM – Correlative Light and Electron Microscopy
- New Lattice SIM (structured Illumination Microscopy) Super Resolution
- Correlative 2D and 3D workflows and case studies
- Correlative Nanotomography: X-Ray Microscopy, FIBSEM and how to locate a volume of interest inside a 3D sample
- Other

#### **November 20th**

- Sample preparation methods
- Cryo-Correlative Microscopy
- Digital Microscopy solutions: Connected Microscopy and cloud based platforms for image analysis
- Case Studies
- Other