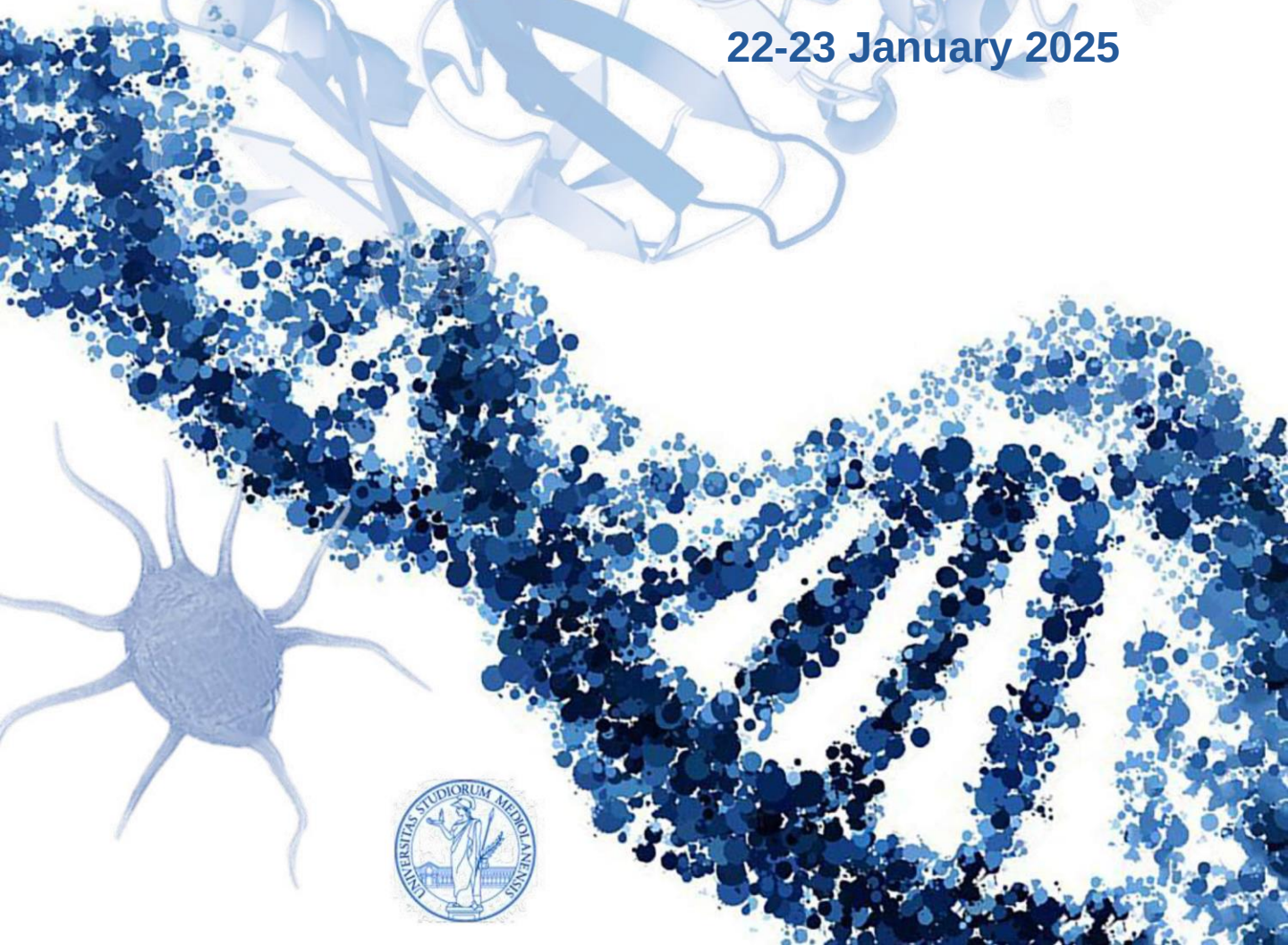
DBS
Dipartimento di Bioscienze

DOTTORATO DI RICERCA
DBMC
IN BIOLOGIA MOLECOLARE E CELLULARE

# A WORLD OF BIOLOGICAL IMAGES: FROM THE NANOSCALE TO MICRO AND MESOSCALE. A GUIDE TO ELECTRON AND OPTICAL MICROSCOPY

***ORGANIZER*: Prof. Alex Costa**

**22-23 January 2025**



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**22 JANUARY 2025**
**ROOM BM (VIA CELORIA 26)**
**9,00-12,00 13,30-16,30**

1. Understand the Basic Principles of Fluorescence Microscopy:
Deepen the fundamental concepts of fluorescence microscopy, including the properties of fluorescent molecules and the mechanisms of fluorescence emission.

2. Acquire Skills in Using Confocal Microscopes, Wide Field and High Content Screening Systems:
Learn the operating principles and applications of fluorescence microscopy.
Conduct practical experiments to acquire high-resolution images of biological samples.
Analyze and process images obtained from optical microscopy.

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3. Develop Skills in TEM Electron Microscopy:
Deepen the theoretical foundations of transmission electron microscopy (TEM).
Familiarize with sample preparation techniques for TEM, including ultrathin sectioning and staining.
Conduct practical experiments to obtain high-resolution images of the ultrastructural features of samples.

4. Implement Electron Tomography in TEM:
Understand the principles of electron tomography and its application in TEM.
Acquire skills in collecting series of images from different angles for three-dimensional reconstruction