

**12 DECEMBER AT 3.30 P.M.
ROOM A 211 | POVO 1**

**CIBIO
EXTERNAL
seminar**

ADVANCED MICROSCOPY FOR CELLULAR BIOLOGY

SPARTACO SANTI

INSTITUTE OF MOLECULAR
GENETICS
– CNR OF BOLOGNA



In the dynamic field of cellular biology, microscopy advancements have profoundly transformed our comprehension of cellular structures. This seminar focuses on the **latest developments in microscopy**, aiming to unravel the intricate complexities of cellular processes. Microscopes, captivating scientists since their inception, play a crucial role in offering a **close-up view** of tiny phenomena, influencing the field of **cell biology**.



The exploration begins with **cutting-edge microscopy technologies** such as super-resolution microscopy, including Structured Illumination Microscopy (SIM), Stochastic Optical Reconstruction Microscopy (STORM), Stimulated Emission Depletion (STED), confocal microscopy oversampling + deconvolution, and multi-modal approaches. These methods offer unprecedented spatial and temporal resolution, which can be utilized to overcome diffraction limit, enhancing our understanding of cellular events. This not only signifies a transformation in cellular biology research but also embodies the exciting possibilities that advanced microscopy offers in **uncovering the bio-imaging applications**.

The concluding part will be a **hands-on training session** with the confocal microscope, where participants will have the opportunity to directly verify the principles that govern image acquisition, such as scanner speed, pixel resolution, PMT gain, laser power, and pinhole management.



DEPARTMENT OF CELLULAR, COMPUTATIONAL
AND INTEGRATIVE BIOLOGY - CIBIO
VIA SOMMARIVE, 9
38123 - POVO (TN)
COMUNICAZIONE.CIBIO@UNITN.IT



**UNIVERSITÀ
DI TRENTO**

Department of
Cellular, Computational and Integrative Biology - CIBIO