Course description

Molecular Recognition Methods (3 CFU)

Program of the course

The nature of electromagnetic (EM) radiation. Fundamental elements of light-matter interaction. EM spectra, Structure of Matter.
Absorption and luminescence phenomena. Absorption and fluorescence spectroscopy. Polarization, linear and circular dichroism.
Fluorescence anisotropy.
Infrared spectroscopy, Raman and SERS.
Microscopy: principles of geometrical optics and microscopy. Confocal setup.
Scanning probe microscopies: AFM, STM, SNOM.
Classical recognition methods: Chromatography, Co-immunoprecipitation, cross-linking. Yeast and bacterial two hybrid.
Surface plasmon resonance. Optical tweezers.
In vivo imaging, FRET, STED, light sheet
Elemental computational approaches to molecular modelling and dynamics, docking.

Lecturer

Dr. Blasco Morozzo della Rocca

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Curriculum Vitae:
Blasco Morozzo della Rocca, is currently a University Researcher in Molecular Biology, Department of Biology, University of Roma Tor Vergata, Italy