

Time-resolved confocal fluorescence microscopy system (MicroTime 200, PicoQuant, Germany)



► **Specific components:** Olympus IX 71 inverted microscope equipped with 3 objectives with different magnifications; x-y piezoelectric scanner and PiFoc z-piezo lens actuator; excitation sources: 5 laser diodes (LDH-D, at 375 nm, 405 nm, 485 nm, 510 nm and 640 nm) in pulses or continuous wave and pulsed Titanium:Sapphire (Ti:Sa) laser (Mira900, Coherent, Germany) at adjustable wavelengths (700-1000 nm) – with specific basic components (pumping laser, collar, controller, pump laser control unit, optical enclosure, laser beam guidance component); 2 Single Photon Avalanche Diode (SPAD) detectors; PicoHarp300 electronic acquisition unit; manual spectrograph with unimolecular sensitivity (300-1050 nm) equipped with EMCCD detector; Olympus XC30 color photo/video camera for viewing samples in bright field; Olympus dark-field condensers with immersion/dry operation, anti-vibration table; computer for data acquisition and processing; SymphoTime64 software; a wide range of dichroic/emission filters and various optical components.

► **Performances:** temporal resolution in the picosecond range; high scanning resolution; flexible design; accessible optical drive; wide range of excitation wavelengths; unimolecular detection sensitivity; two simultaneous detection channels; friendly data acquisition and processing software; the system is adapted for different types of measurements/modes of data analysis: FLIM, FCS, FRET, measurement of fluorescence lifetimes in liquid or solid samples, unimolecular spectroscopy, nonlinear optics measurements, monitoring of fluorescence signal fluctuations, etc.

► **Total value:** 2.236.045,38 Lei (aprox 500.000 Euro)

► **Aquisition year:** 2012 + annexes (2013-2016)

► **Applicability:** Time-resolved fluorescence imaging (FLIM) on biological structures (cells, tissue) or materials with luminescent properties, including polymers), Characterization of the interaction of some exo- or endogenous chromophores with (plasmonic) nanoparticles applied in therapy, diagnosis and imaging. Toxicity assessments. Molecular fluorescence correlation studies, Sensoristics, Biodetection, Quantitative microscopy studies, Cell biology, Non-linear optics, Two-photon imaging, Materials science, etc.

► **Availability for Access and Use**

Contact persons:

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Available for a pre-evaluation of the complexity of the samples and estimation of the working time, in the **9:30 - 17:30 interval**, based on a preliminary email or phone appointment.

Usage conditions: exclusively by the personnel responsible for the mentioned specialty

Analysis price - extern UBB: Preliminary evaluation – free of charge; Recording and analysis of FLIM image: 300 lei/sample; Spectrum measurement: 250 lei/sample

Analysis price - intern UBB: free of charge