

## Inverted optical fluorescence microscope (Zeiss Axio Observer Z1, Zeiss)



► **Specific components:** inverted optical microscope equipped with 7 objectives (10x - Plan-Apochromat, dry; 20x - LD Plan- Neofluar, dry DIC II; 40x - EC Plan-Neofluar, immersion, DIC III; 63x - Plan-Apochromat, immersion, DIC III; 63x – Plan-Apochromat, immersion, iris; 100x - A-Plan, dry; 100x - Plan-Apochromat, immersion, DIC III), 3 condensers ●Achromatic LD dry, NA=0.8, H, D, DIC III and III; ●Achromatic-Aplanatic with immersion, NA=1.4; ● dry LD NA=0.35); light sources (halogen lamp HAL100; metal halide fluorescent lamp HXP 120, LED 660 nm, LED 785 nm); 4 fluorescence cubes (DAPI-set 49 (exc: G 365, em: BP 445/50); FITC-set 38 (exc: BP 470/40, em: BP 525/50); Rhod-set 20 (exc: BP 546/12, em: BP 575-640) ; set 50 (exc: BP 640/30, em: 690/50)) ; 2 digital cameras (AxioCam Mrm, black and white, high resolution; AxioCam ICc 1 color); incubator for biological samples (humidity, temperature and CO2 control); computer for data acquisition and processing; ZEN 2011 software.

► **Performances:** Visualizations of plasmonic nanoparticles by dark-field microscopy at the single-particle level both on the substrate and inside living cells; Stationary fluorescence microscopy at different excitation wavelengths of different materials or biological samples (cells, tissues, bacteria, etc.); High-resolution visualizations and improved contrast through the DIC method; Real-time monitoring (« movie ») of living cells; Fiber optic coupling to the Ocean Optics microspectrometer for recordings of scattering, fluorescence, transmission, absorption spectra.

► **Total value:** 454.674,6 Lei (aprox 100.000 Euro)

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

► **Applicability:** Morphological and optical characterization of some materials / substrates / nanoparticles, dark field imaging, fluorescence and DIC of cells, internalization studies of plasmonic or fluorescent nanoparticles, cell viability studies by fluorescence methods, 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; Optical microscopy: 150 lei/sample

**Analysis price - intern UBB:** free of charge