

**Nikon 90i** (upright microscope): Fully integrated high-resolution microscope with digital imaging head, automated z-axis and a broad range of objectives, delivering crisp, clean and true-to-life images of **fixed** fluorescent cell samples

- observation of samples on standard coverslips
- automatic multichannel acquisition in bright field and fluorescent channels (currently available: blu, green, red, far-red)
- automatic acquisition of z-stacks of images in all channels

**Nikon Ti** (inverted microscope): **Time-lapse imaging of living cells**: multipoint acquisition of fluorescent, DIC and phase contrast images in time lapse video-recording experiments. Equipped with an OKO-lab stage incubator for controlled T and CO<sub>2</sub> conditions.

- observation of samples using several supports (coverslips or multiwell slides; 35 mm dishes; 6-well plates) under controlled environmental conditions (T, CO<sub>2</sub>); universal support for room temperature observation.
- totally automated 6D acquisition: multipoint, multichannel (currently available DIC or Phase contrast; green and red fluorescent channels), z-stacks, time-lapse images; automatic generation of videos from acquired images.

**Data analysis using Nis-Elements HC** (for images acquired on either 90i or Ti; dedicated workstation):

- deconvolution
- creation of image projections from z-stacks using Maximum Intensity Projection, Minimum Intensity Projection, Extended Depth of Focus functions
- 3D visualisation of z-stacks
- manual or automatic (binarisation) measures and counting of: geometric features (distances, lengths, areas, etc.), volume measurements, signal intensity (mean, sum, profile, etc), number of objects, colocalisation module, measures over time.
- bio-analyses: wound healing assays, proliferation assays, cell tracking, cell count
- elaboration of quantitative data: automatically generated tables and histograms of several measured values, with statistics, easily exported to excel worksheets;
- qualitative elaboration of analysis using LUTs
- easy annotation on images (associated measured data, labels, scalebars, etc)

**Database “Time-lapse imaging” (Nis-Elements HC):**

data recording and phenotype collection/analysis with both automatic and manual annotation modes