

# Laboratory of microscopy

RNDr. N. Tomašovičová, CSc., Institute of Experimental Physics of Slovak Academy of Sciences, nhudak@saske.sk

## Laboratory for studying the optical properties of materials

### Transmission Electron Microscope JEM-2100 F

- Compact benchtop instrument that combines high resolution imaging with no cooling water
- Observation of objects composed of light elements (H, C, N, O, S, P)
- Visualize samples without using of heavy metal stains
- Observation of magnetic nanoparticles that content iron compounds
- Low accelerating voltage (5 - 10 kV)
- Minimum resolving power 4 nm
- Minimum probe size 100 nm



### Polarizing microscope NIKON LV-UDM-U with fluorescence



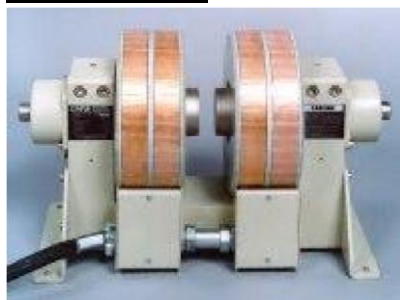
- Both transmitted and reflected polarization observations are possible (P swing-out condenser), P- CL  $1/4 \lambda$  & tint plate
- Circular graduated stage provided with  $360^\circ$  rotation mechanism with adjusting the position in the X and Y- direction individually, specimen area is  $150 \times 100$  nm
- Possibility of mounting the heat stage LINKAM
- Objectives for bright and dark field (EPI) – with working range of 68 mm
- Universal epi illumination selector lever with the bright and dark field, lever for a fluorescence filter blocks with the UV excitation and daylight filter
- External fluorescence source, possibility of connection both epi illuminator and fluorescence illumination to microscope with the simple switching between sources
- Possibility of using transmitted and reflected light at the same time

### Long- Distance Microscope QM 100 MARK III

- Equipped with camera, with working range from 15 to 35cm
- Resolution  $1,1 \mu\text{m}$ -15cm
- Magnification to 34 times at image plane



### Electromagnet



- Dipole Electromagnet with adjusting pole gap between dipoles.
- Obtained magnetic field of 1 Tesla with the pole gap of 25 mm.
- Adjusting pole gap between cores of magnets from 0 to 80 mm.