Instrument: **Aramis CRM**

Descriptions: LabRAM Aramis Horiba Jobin Yvon Confocal Raman Microscope with 4 excitation sources and fast mapping mode

Details:

Provide measurements of spectra and 2-d mapping of true confocal Raman and photoluminescence in the range from near- IR to UV

Spatial resolution: Diffraction limited; <300 nm @ 532 nm laser for xy- directions and <600 nm for z direction for appropriate samples
Spectral resolution: ~1.6 cm^{-1} for 514nm -estimation done for 600 grating

- **Automated Notch Filter Selection** - the motorized notch filter selector enables 4 laser wavelengths to be changed with speed
- 460 mm spectrograph, transmittance >30%
- **Automated QUAD Grating Turret** : Four gratings: 150, 600, 1800, 2400 for different spectral range and spectral resolution
- **Fast Raman images (blast mode): fast CCD detector + fast-response piezo stage: up to 15 spectra per second, which allows us reduce experiment time in case of strong signal**
- **First detector**: Andor *DU420A* CCD, -80 ºC, 1024x256 pixel format, open electrode, QE>30% in the range 250-800 nm, optimization for visual and UV range
- Second detector: InGaAs for IR range up to 1500nm
- **XYZ Piezo-stage**: Nano XYZ-200 piezo- stage, 200x200x200 μm in all directions; position accuracy 1 nm in all directions
- **Heating/cooling stage**: LINK-600, computer controlled heating and cooling stage, Temperature from -196 ºC to 600 ºC
- **Automatic switching between lasers and filters**
- Other options include:
  - ✓ fluorescent imaging for rapid analysis using high magnification video camera coupled with fluorescence filter
  - ✓ bulk and liquid samples option (so called macro chamber)
  - ✓ Five microscope objectives: 10 X, 50 X and 100 X for visual range and 20 X and 50 X for UV range
  - ✓ λ/2 and λ/4 plates and polarizers
  - ✓ Six neutral filter