



SATHYABAMA

Institute of Science and Technology
(Deemed to be University)
Chennai-Tamilnadu-600119



Centre for Nanoscience
and Nanotechnology



Raman Spectroscopy & Applications

Sathyabama Institute of Science and Technology proudly announces the establishment of 'Raman Spectroscopy' facility at Centre for Nanoscience and Nanotechnology, International Research Centre. Raman spectroscopy technique is useful to researchers in the area of Materials Science, Physics, Chemistry, Biotechnology, Pharmaceutical, Surface Science, Engineering etc. It is a non-destructive technique that provides qualitative information about chemical structure, crystallinity, molecular bonding, defect analysis, chemical environment etc. Raman Microscopy also captures high magnified images of a sample along with simultaneous spectrum acquisition on a microscopic laser spot. It is also fitted with high temperature attachment to understand phase transition and structural information as a function of temperature.

RENISHAW

inVia Confocal Raman microscope (United Kingdom)



Technical Specifications & Capabilities

Spectrometer

- Excitation laser source: 532 nm (50mW) & 785 nm (300 mW)
- Gratings: 2400 l/mm & 1200 l/mm
- Spectral frequency 100 cm^{-1} to 3500 cm^{-1}
- Cut of filter with 50 cm^{-1} for 532 nm
- Spectral resolution: 0.75 cm^{-1} (FWHM)
- Detector: CCD array NIR detector (Pettier cooled -70 °C)

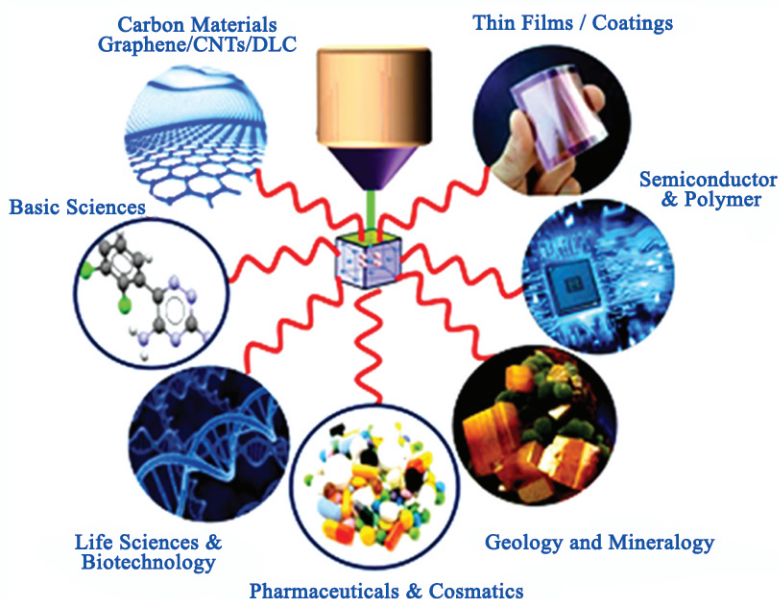
Microscope

- Research grade Leica microscope: Confocal measurements with
- 2mm depth resolution (100X objectives)
- XYZ mapping stage: Travel range-112mm x 76mm x 25mm
- Depth profiling: 8nm steps
- Spatial resolution: Axial<1mm: Lateral: 0.5mm

High Temperature Raman Measurements

- Linkam Hot Cell stage: RT to 1000 °C (water cooled)

Applications



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For online slot booking

