Field Emission Electron Scanning Microscopy (FESEM) facility

Instrument details
Model : JEOL JSM 7610f
Electron gun : Schottky type field emission (T-FE) gun (Zr/o tungsten emitter)
Electron Beam resolution (secondary electron image)
1.0 nm at accelerating voltage 15 kV
1.5 nm at accelerating voltage 1kV in GB mode
2.5 nm at accelerating voltage 1kV in SEM mode
Magnification
LM (low magnification) mode : x25 to x19000
High magnification mode : x130 to x1000000
Specimen stage : Fully eucentric goniometer stage
X-axis : 70 mm , Y-axis: 50 mm, Z-axis : 1.0 to 40 mm, Tilt: -5 to + 70, Rotation : 360
Image modes
Secondary electron image (SEI)
Accelerating voltage
SEM mode : 0.5 to 30 kV
GB mode : 0.1 to 3.9 kV
Probe-current : Order of 10^{-13} to $2x10^{-7}$
Detectors Available:
EDS detector : EDAX make LN2 free, peltier cooled, Octane plus model, ($30mm^2$ and 127 eV resolution) with TEAM software support for live spectral, lines scan and mapping data collection facilities.

Sample Preparation / coating facilities

		
Sputter Coater : JEOL JEC 3000FC auto fine coater	**Carbon Coater :** JEOL EC-32010CC	**Critical Point Drying** (CPD): Bal-Tec 030

Instructions / Sample preparation guidelines:
The size of sample should be less than 12.0 mm x 12.0 mm x 10 mm (height). and side opposite should be flat (to enable sample mounting). The small sample height is better.
The samples should be dry and should withstand high vacuum (10^{-5} pa).
The surface of the samples should be clean and contamination free for the better results.
Wet biological samples cannot be done in FESEM. Biological samples will be accepted only after primary fixation and dehydration.

Note :

Email : director@bsip.res.in, hukam_singh@bsip.res.in, subodh_kumar@bsip.res.in Phone -0522-2742921