INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY

Sophisticated Analytical Instrument Facility (SAIF)

Focused Ion Beam - Scanning Electron Microscope (FIB-SEM)

Applicant Details:

User Name: .....

Email ID: ..... Mobile No.: .....

Gmail ID: ..... Intercom No.: .....

Name of Guide/PI: .....

Guide/PI Email ID: ..... Guide/PI Mobile No.: .....

NOTE:
PART A : To be filled if user requires FIB Milling, FIB-patterning / TEM sample preparation (Lamella) / Slice & View
PART B : To be filled if user requires SEM imaging & EDS Analysis

PART A

Request Form for **FIB Analysis** for internal IITB users

(Details required for FIB Milling, patterning / TEM sample preparation / 3D Slice & View)

Sample information:

Number of samples	
Sample code	
Sample Composition & Sample dimensions (The sample size should be less than 10 mm x 10 mm x 4mm and base of the sample should be flat for mounting on sample holder) **** Sample Height/ Thickness should not exceed 4mm)**	
Analysis Required (Tick the relevant analysis required)	FIB Milling / TEM sample preparation / Slice & View If FIB Milling / Slice & View is ticked then, What feature size (estimated) are you looking to mill / image? _____

<table>
<tr><td></td><td>If TEM sample preparation is ticked then, What are the dimensions required for TEM lamella?
_____

Any additional information_____</td></tr>
<tr><td>Sample type
(you can select multiple options)</td><td>Powder (Not for Milling) / Solid / Solid but porous / Magnetic (Highly magnetic samples not possible) / Thin film / Other (Please specify)
_____</td></tr>
<tr><td>Detailed description of the sample.
(Briefly describe the method used to prepare or fabricate your sample before bring it for FIB related preparation)</td><td></td></tr>
<tr><td rowspan="6">Nature of the sample</td><td>Non-Conducting / Conducting / Semi-Conductor</td></tr>
<tr><td>Magnetic /Non Magnetic</td></tr>
<tr><td>Is it electron beam sensitive? Yes/No →
(Explain if Yes) _____</td></tr>
<tr><td>Is it volatile? Yes/No →</td></tr>
<tr><td>Is it flammable? Yes/No →</td></tr>
<tr><td>Is the material loosely bound under vacuum condition? (Yes/No) (Explain if Yes)_____

If YES
1. Has sticky tape test been done by the user in case of solid / thin film on substrate? (Yes/No) (Explain if No)
_____
2. Has compressed gas blow test been done by the user in case powder on carbon tape? (Yes/No) (Explain if No)_____</td></tr>
<tr><td>Have you prepared lamella using FIB earlier? If Yes, please provide details of preparation method and sample dimensions If No, then in case of TEM Lamella preparation, please prepare a PPT describing your sample detail. Make a diagram describing the details requires for lamella preparation.</td><td></td></tr>
<tr><td>Is site specific sample preparation mandatory? If so, mention the specific area in the sample.</td><td></td></tr>
<tr><td colspan="2">Note:
• Please share results that may be helpful for sample preparation and analysis
• Samples for FIB related preparations should be well-polished / Uniform
• The sample size should be less than 10 mm x 10 mm x 4 mm (height) in case of bulk samples and base of the sample should be flat for mounting on sample holder</td></tr>
</table>

PART B

Request Form for **SEM-EDS Analysis** for internal IITB users

(Details required for SEM & EDS Analysis)

Sample information:

Number of samples	
Sample code	
Sample type	Biological / Composite Material / Thin Film / Crystalline Solid / Metal/Polymer/Ceramic/Composite/ Other (Please specify): ..... *biological samples should be submitted after primary fixation
Detailed description of the sample	
Sample form	Powder/Pellet/Suspension/On glass substrate/Film/Others.....
If sample is Pellet, thin film	Mention sample dimensions.....
If sample is powder, Dispersion required	Yes/No If Yes, Medium for dispersion.....
Nature of the sample	Non-Conducting / Conducting / Semi-Conductor
Sample is	Magnetic /Non Magnetic

Type of Analysis & Details of the Analysis required (Kindly tick):

SEM Image	Mode	Secondary Electron Image / Back Scattered Electron Image
	Analysis requirement	Surface Imaging / Cross Section Imaging (*For powder and suspension samples only surface imaging is possible*)
	Sample to be mounted	Planar/Cross Section/ Powder directly loaded on sample holder/ Drop cast for liquid or suspension samples
	Expected Morphology	Brief description about shape .....
	Expected Particle Size	
EDS	Analysis requirement	Point EDS /area EDS/EDS mapping/ line scan
	List of expected elements (for EDS)	.....