

**E-BEAM LITHOGRAPHY AND REACTIVE ION ETCHING LABORATORY
CENTRAL RESEARCH FACILITY
INDIAN INSTITUTE OF TECHNOLOGY (ISM), DHANBAD-826004**

1.	Name of the User & Designation	
2.	E-mail ID/ Phone No.	
3.	Name of the Organization	
4.	Information about required uses	
(a)	Required number of uncoated Silicon Die of size 1 cm ²	Not required <input type="checkbox"/> / required _____ nos.
(b)	On how many dies wet chemical cleaning and PMMA coating is required?	Not required <input type="checkbox"/> / required _____ nos.
(c)	Is EBL required? If yes, then specify the writing area.	Not required <input type="checkbox"/> / Required on an area of _____ μm × _____ μm.
(d)	Is RIE (OXYGEN/ HYDROGEN/ARGON/ SF6/ CF4 PLASMA) required? If yes, then specify the plasma etching time and required etchant gasses.	Not required <input type="checkbox"/> / Required O ₂ / H ₂ /ARGON/ SF ₆ / CF ₄ Gasses for _____ minutes. (strike out the unnecessary gasses)
(e)	Is FESEM imaging required? If yes, then specify the slot hour, sample type, etc. [Please note that - <ul style="list-style-type: none"> • Powdered or Moist samples are not allowed • Gold/Carbon coater is not available in the lab. Hence, if such a coating is required on the sample then the sample needs to be deposited 7 days prior the analysis.] 	Not required <input type="checkbox"/> / Required for _____ hours. I wish to get ____ (in words _____) number of samples be examined/analyzed. The nature of samples is – Metallic (), Ceramic (), Polymer/Rubber (), Semiconductor (), Magnetic (), Composites () or others () (If others please elaborate: _____ _____) I need coating (): (Yes/No) _____ (For non-conducting samples)
5.	Remarks, if any	

User's Name (block letter): _____ Name of Supervisor _____
Dept./Centre _____ Lab Phone No. _____ Cell No: _____

Signature of HOD/HOC/Guide/PI/Prof.-in-Charge

Signature of the user

Details of analysis Charges:

The estimated charge for the work ₹ (In words) has been deposited through †DD (Number) / †Cash payment in the IIT (ISM) Dhanbad Cash counter (Receipt No.) on (date) /

OR

To be debited from (**For internal users only: PDA/PDF/Project**):

**Please provide the original DD / CC of cash receipt along with this form.*

Signature of the User /Faculty /Supervisor /PI

Please allot time and complete the work.

Signature of the Laboratory In-Charge

The above work has been done satisfactorily on _____ (Date) within _____ number/s of slot and generated data has been delivered to me.

Signature of the Operator

Signature of the user

Please note:

1. Powdered and moist samples are not allowed due to the constraints of lithography attachment.
2. Coating facility is not available in the specified laboratory. Now, as the above charges include coating, it can be done in the FESEM lab of the old CRF building. However, those needs coating on their sample has to submit the sample 7 days before imaging.
3. Only one user is allowed in the lab per sample. The user needs to strictly follow the entry/exit protocols of the lab.

Booking Rules for FESEM

- The FESEM is available for booking every week as follows: Total 10 halves/sessions in 5 working days (Monday - Friday). Each session is of three hours consisting of 3 slots (including sample mounting, sample insertion, venting and data collection time). At best 5-6 samples can be imaged in each slot.
- Magnetic samples may be declared properly.
- Samples require C/Au/Pt coating must be mentioned in the booking form clearly.
- Moist or powdered sample is not allowed for study. Hydrated samples must be dried before run.
- Deadline for submission of slot booking forms is Thursday (up to 3 PM) of the previous week. Allotment of slot will be notified at 4 PM on the next day (i.e. Friday).
- One can get a maximum of 2 consecutive slots at a time (approximately two hours). Users who could not obtain a booking in the preceding fortnight will be given preference.
- All payment must be made prior to booking of the slot and true copy of the payment slip (for deposit in IIT (ISM) cash counter in the head of **CRF-Lithography**) or original DD [must be drawn in favour of **Registrar, IIT (ISM)**] must be provided with booking form.
- All forms must be forwarded through the concerned HOD, HOC, PI, Guide or Prof.-in-Charge etc. and to be submitted in the FESEM Laboratory.
- In case of power shut down or unforeseen disturbances, any unutilized slot will be subsequently compensated for in the next round of booking.
- All users should inform composition and sample details to the operator and leave a copy of the photographs/results in the laboratory for internal records (log book).
- Generated data will be provided to the user only through the new unused blank CD. No request will be entertain for providing generated data by e-mail, pen drive, external hard disk or any other means. Thus user should bring a new CD for collection of their data.
- All users are sincerely requested to inform the laboratory if any of the results obtained from FE- SEM receive special recognition (publication, award, journal-cover-page, special citation etc.) and leave a copy of their reprint, photograph or award copy with the FE-SEM lab for internal documentation.