

Rules and Regulations for ZEISS Crossbeam 540 FIB-SEM

Users: Post-Graduates, Research Staffs

Suitable for: TEM lamella preparation, patterning, cross-section, etc.

Operating Hours

Office Hour: 8am to 6pm (Monday to Friday)

After Office Hours: 6pm to 8am (Monday to Friday)

Saturday and Sunday Whole Day

Booking: Block of 2 hours per session.

Criteria for Post-Graduates/Research Staff to use ZEISS Crossbeam 540 – Normal Users (Office Hours)

- 1) FIB-SEM usage is restricted to Post-Graduates and Research Staff only.
- 2) Users must pass safety quizzes first and attend safety training.
- 3) Post-graduates and Research staffs with or without prior FESEM experience must pass the SEM quiz before training is scheduled.
- 4) Trainee must also show good performance during training as a criterion to gain access to the instrument.
- 5) Training will be conducted for 2 days including hands-on practice. If user is not proficient enough to operate the FIB at the end of the training, extra day(s) of training will be required at the rate of 400 SGD / day.
- 6) Upon accumulating 30 hrs of experience, users will be able to apply for after office hour access to the instrument.

Criteria for Post-Graduates/Research Staffs to use ZEISS Crossbeam 540 – Advanced Users (After Office Hours)

- 1) Must accumulate at least 30 hrs of office hour usage.
- 2) Showed proficiency in basic operations such as eucentric and coincident point adjustment, omniprobe needle sharpening, etc.
- 3) A briefing will be conducted before after office hours access is granted.

Penalty for all FIB-SEM Users

- 1) Charges apply if users fail to turn up for the booked session.
- 2) Users have to cancel the booking at least 24 hr before their session. Charges apply if users cancel booking thereafter.
- 3) Users must use at least 8 hours within 60 days after training, or else server will remove access of system.
- 4) Following (3), they have to wait for at least the following month for retraining. There will be charges for retraining.
- 5) Their account will only be reactivated on the following month after we verify that they are able to manage the instrument without issues.
- 6) Users will bear the cost of any damage and will be banned from using the instrument due to misuse.
- 7) Users must bear the full responsibility of the instrument for the session they have booked. If users allow unauthorized users to operate the instrument during the session that he/she has booked, penalty will be implemented as follows:

1st time

- i. Access to all instruments in FACTS will be revoked for 1 month.
- ii. On the following month, users will be downgraded to day access to that particular Instrument, reassessment will be given before upgrading again.

2nd Time

- i. Access to all instruments in FACTS will be revoked for 1 month.
- ii. On the following month, user must apply for retraining with full training cost before accessing to that particular instrument. Training is subjected to availability.

3rd Time

- i. Access to all instruments in FACTS will be revoked for 1 month.
- ii. On the following month, users must apply for retraining for that cluster of instruments (either SEM cluster; FESEM cluster; XRD cluster 1+2; TEM cluster), with full training costs.

If the offence is a non-compliance with safety rules, MSE HSE will also be informed of the incident.

- 8) In case of sample dropped into Chamber – User who dropped the sample will be banned for one month and have to be retrained on that particular instrument. Training is subjected to availability and will be fully chargeable.
- 9) All users must submit the incident report within 1 working day after the incident. Otherwise, user's access to the instruments will be suspended indefinitely until the

incident report have been submitted and the indicated time of access removal will take effect from the time of submission.

For Users who have not booked and used the FIB-SEM for a long time

- 1) If users have fulfilled the entire criterion stated above but are unable to use the FIB frequently after that, their access might be reverted to office hours usages until he is certified to be able to use the instrument proficiently.
- 2) The FOM will remove the access of the user who have not used the FIB for a year. In such event, user have to be re-trained and training cost is fully chargeable.

For Visiting Professors/Staffs/Post-graduates

- 1) Visiting Professors/Staffs/Post-graduates who will be staying in NTU for less than half a year will not be allowed to be trained in the FIB-SEM.