

APPLICATION FOR USE OF CRYO-EM FACILITIES (Part-I)

ACCESS PROCEDURE:

1. Applicant (and/or his/her supervisor/PI) is first required to schedule a meeting with the EM facility staff for project assessment. EM facility staff will help to identify the suitable technique, instrument and training for the project. The applicant will be presented accessing policy, safety regulations, training requirement, and charging scheme by EM staff.
2. Applicant is required to submit the application form with risk assessment and research plan to EM facility in order to register a user account into the online booking system. The supervisor/PI also needs to sign the form and accepts the terms and conditions in using EM facility.
3. Applicant is required to schedule the training with EM facility staff and should study the training material prior to the training.
4. The trainee is required to practice after training under the supervision of EM staff, in order to become a proficient and independent user.
5. Applicant will only be granted independent user status until he/she passed the qualification exam on the trained equipment. Thus he/she is able to book instrument time through online system and is allowed to use the instrument independently.
6. User's independent status may be revoked and user may be barred from facility when he/she is found in violation of facility rules and regulation, damaging instrument with reckless activities and fail to pay the bill in time.

RULE OF CONDUCT

1. Only independent user who has been authorized by EM facility staff is allowed use the equipment (for both sample preparation and EM operation) by themselves.
2. The independent users can book the equipment through online system for themselves only. For booking rule regarding to individual instrument, user need to check with EM staff.
3. The EM facility working hour is 8:30am to 6pm, Monday to Friday. Only authorized proficient user is allowed to book on off-hours.
4. User needs to turn up on time for slots as booked. To cancel the booked slots, users should notify EM staff at least 24 hours in advance; otherwise the usage charge will occur as usual for the booked time slot.
5. User should follow the instructions and operate the instrument with great care. User is NOT allowed to change/remove equipment, change configuration or modify computers settings.
6. User and the supervisor/PI will be held for responsibility for repairing cost of any damage due to improper operation and reckless activities.
7. In case of any abnormal condition of instrument, user should stop using the instrument and inform EM staff immediately.
8. User should record time of usage in the log/record book immediately after finish the session.
9. User is expected to follow the safety regulations and wear PPE (labcoat, gloves and goggles) when working in EM facility. Smoking, eating or drinking is prohibited in EM lab area.
10. User is required to clean the workspace and restore the equipment to prior condition after usage. User must dispose the waste properly following the safety regulations.
11. User must work together to maintain a clean and safe lab environment. User is required to report to EM staff immediately of any breakage / spill / malfunction / injury.
12. EM facility will NOT be liable to any injury occurred in EM facility. Users must follow the safety regulation and conduct risk assessment based on their own experiments.

CHARGES AND PAYMENTS

1. The charging scheme of using the EM facility is attached with this form.
2. The user will be invoiced quarterly for the usage and expected to pay the bill promptly.
3. The user who fails to pay the bill in thirty (30) days from the date of invoice will be suspended for using the EM facility until the bill is cleared.
4. The terms and conditions are subject to be reviewed and revised in future by CBIS management.

PUBLICATION AND ACKNOWLEDGEMENTS

1. User is required to acknowledge the use of EM facility in the publications and presentations as follows:
"The authors acknowledge the Cryo-Electron Microscopy Facility at Center for Bio-imaging Science, Department of Biological Science, National University of Singapore the scientific and technical assistance"
2. Scientific and intellectual contribution from EM facility staff, through either collaboration and/or supervision, warrants the co-authorship on the resulting publication, e.g. the EM staff, who generates any data used by the resulting publication, SHOULD be included as the co-author.

APPLICATION FOR USE OF CRYO-EM FACILITIES (Part-II)

1. Applicant Particulars (Please fill in **BLOCK** letters)

Name Dr. Mr. Mrs. Mdm. Miss. (underline surname/family name)

Designation

Undergraduate Honors Postgraduate Student Lab Officer
Research Assistance Research Fellow Others _____

Email address

Department/Company

Contact number(s)

2. Supervisor/P.I.'s Particulars

Name (underline surname/family name): _____

Email: _____ **Contact Number:** _____

Account Chargeable: _____

The invoice will be sent and charged* to the Person and Address stated here: _____

*The source of fund will determine the billing category you are assigned to. Non-NUS funding will be subjected to GST.

3. Supplement Information

Risk Assessment:

Please submit OSHE standard risk assessment regarding to your sample and specimen preparation and processing steps conducted in EM facility.

Project details:

Please submit one-page of research plan to describe aims and goals in using EM facility, with necessary scientific references.

4. Facility Training Available/Required

TEM (Conventional / Cryo)

SEM (Conventional / Helios HRSEM / Helios FIB_SEM)

EM sample preparation (Conventional / Cryo / HPF/FS)

Ultra-Microtomy

Agreement

I have read, understood and agreed to comply with the terms and conditions in **Part I** of this form. I understand that any violation could result in my being barred from entry and/or use of facilities in future.

Agreement

I have completed the **Supervisor/P.I.'s Particulars** of this form. I have read and agreed to the **Part I** of this form and **Charging Scheme** appended with this form. I am agreeable with my student/staff to apply to use the EM facilities. I am agreeable with the occurring fees to be charged to my funding account.

Signature of Applicant / Date

Signature of Supervisor/PI / Date

CRYO-EM FACILITY CHARGES FOR ACADEMIC* USAGE 2015	
TEM/SEM OPERATION	
FEI Titan Krios	\$250/hour
JEOL 2200FS	\$120/hour
TEM (FEI T12, JEOL 2010)	\$80/hour
FEI Helios HRSEM	\$80/hour
FEI Helios FIB/SEM	\$120/hour
JEOL SEM	\$25/ hour
Technical Service	\$80/hour (for labor)
TEM/SEM TRAINING	
TEM	\$500/day(lump sum) \$800/day(non-lump sum)
JEOL SEM	\$150/half day
Helios SEM	\$300/day
Helios SEM/FIB	\$800/day
EM SAMPLE PREPARATION TRAINING	
Conventional TEM Sample Prep	\$300
Plunge Freezing	\$150
High-pressure freezing/freeze substitution	\$300
Sample embedding	\$50
Ultra-Microtomy	\$300
Staining	\$150
ANCILLARY EQUIMENTS	
Vitrobot	\$45/hour
HPF (LN2 excluded)	\$45/hour
Leica FS machine (LN2 excluded)	\$5/hour
Ultra-Microtome	\$30/hour
Critical Point Dryer	\$30/hour
Gold Coating	\$30/hour
Platinum Coating	\$30/hour
Carbon Coating	\$15/hour
CONSUMABLES	
Glutaraldehyde	\$30/vial
Osmium tetra-oxide	\$50/vial
Bare TEM Grids (x100)	\$50/vial

*Industrial user please contact the CBIS management for the commercial rate

APPENDIX

Currently available electron microscopes and their configuration:

1. FEI Titan Krios Cryo-TEM
300kV, FEG, 4k x 4k FEI-Falcon direct detector, Volta phase-plate and Gatan Tridiem GIF with 2k x 2k post-GIF Gatan CCD
2. JEOL 2200FS Cryo-TEM
200kV, FEG, Omega energy filter, Zernike phase-plate, DE-12 and Orius CCD
3. FEI Tecnai T12 TEM
120kV, LaB6, 4k x 4k Gatan Ultra-Scan CCD and Gatan Orius 2k x 2k
4. JEOL JEM 2010F TEM
200kV, FEG, 4k x 4k Gatan Ultra-Scan CCD and Gatan Orius 2k x 2k
5. JEOL SEM 6510 Tungsten Filament
6. Helios Dual Beam
FEG HRSEM and Focused Ion Beam, ETD and TLD detectors

The ancillary equipment

1. HPM 01 high pressure freezer
2. Leica freeze substitution machine
3. Vitrobot plunge freezer
4. Critical point drier (Auto)
5. Coater for gold (Au)/ Platinum (Pt) coating
6. Carbon coater
7. Embedding Oven
8. Ultra-Microtomes (Leica, Reichert)
9. Plasma cleaner/ Hydrophilic treatment device

Contact

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