

Q3. How to apply an instrument?

A3. Before applying, users should fully read the instructions on ASCEM website. The following are only some key points.



Key notes for Vitrobot – CryoEM sample preparation

- Self-operation is open to certified users (need to take training courses).
- Request for staff operation (please book **Vitrobot2**).

Online
Booking

- Submit a **"Service Request"** on DAAIS Online Facility Reservation System.
- User PI needs to approve the request after receiving a **system "notice email"**, then the applicant can use Vitrobot.

Must Do

- Applicant needs to complete "Time & Charge Confirmation".



Sample buffer recommendation

- (1) Use hydrophilic buffer that most suitable for sample, low-salt concentration, better not to add surfactant, and better no sucrose or glycerol.
- (2) Buffer viscosity will affect ice layer thickness, the more viscous the buffer when making the sample, the ice layer will be too thick or be empty.

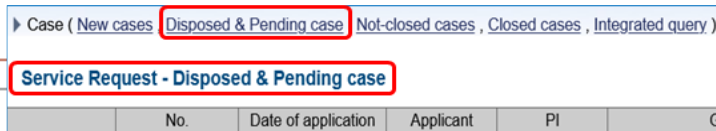
Key notes for CEM2

Online
Booking

- Submit a **"Service Request"** on DAAIS Online Facility Reservation System, click **CEM2**.
- User PI needs to approve the request after receiving a **system "notice email"**, then the applicant can use CEM2.

Data
Collect

- Time slots: (1) 09:00-12:00, (2) 14:00-17:00, (3) 00:00-24:00 (Only certified users can book for the non-working hours.)

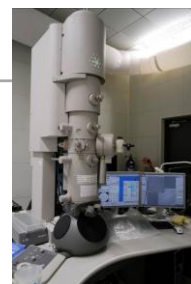


Must Do

- Applicant needs to complete "Time & Charge Confirmation".

Notes for samples

- Grids must be delivered to staff at least two days before the machine time.
- Applicant can be on site during the booked machine time for sample discussion.



Key notes for CEM3

cryo-sample
prepare
(Vitrobot)

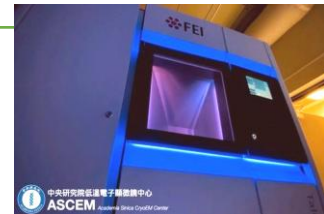
- Contact staff, submit the "**Form of Grid Location**".
- Grids must be delivered to staff **two days before** the machine time. Damaged grids can't be clipped.

Online
Booking

- Submit a "**Service Request**" on DAAIS Online Facility Reservation System, click **CEM3**.
- For the 1st time, apply for a training course also, **ASCEM Training Course** → **Talos Training (EPU)**.

Data Collect

- Time slots: (1) 10:00-14:00 morning (2) 14:00-18:00 afternoon (3) 18:00-09:00 **overnight data collection** (Please set up by 17:30, staff will check parameters and align machine.).



Other notes

- (1) On the fly motion correction (default parameters) is applicable for overnight data collection. (Free, saving time and space ~1/25x)
- (2) ASCEM hard disk space is limited (3 8 0TB), so back up data on your own soon. Raw Movies will be kept for ~2 months, and Motion Corrected Micrographs ~4 months.

Key notes for CEM4

Online
Booking

- Submit a "**Service Request**" on DAAIS Online Facility Reservation System, click **CEM4**.
- Grids must be delivered to facility staff at least **two working days** before the machine time. Damaged grids can't be clipped.
- Contact staff, submit the "**Form of Grid Location**".

*Time required for data acquisition :

- ☐ 1 Day (Start on Weekday)
- ☐ 2 Days (Start on Weekday | Different grids over two days)
- ☐ 2 Days (Start on Weekday | The same grid over two days)
- ☐ 2 Days (Start on Friday | The same grid over two days)

*Earliest Available Date (Please provide the earliest date your samples/grids will be ready. The facility team will arrange the session based on instrument availability) :

- ☐ My grids are ready now.
- ☐ My grids will be ready on/after (YYYY/MM/DD)



Data Collect

- Manager will schedule by **the order of case application time** and **the available machine time**.
- For the best use of machine time, Manager may dynamically adjust schedule.

Other notes

- (1) On the fly motion correction (default parameters) is applicable.
- (2) Due to the limited hard disk space (380TB), Krios can only keep use for ~1.5 months, please back up soon on your own.

• CEM4

CEM4: Titan Krios

