

**PACIFIC NORTHWEST
CRYO-EM CENTER**

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2730 S. Moody Ave.
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PNCC Scheduling Policies

version 6

General Policies

1. All users must accept the PNCC [User Agreement](#) before requesting use of PNCC resources.
2. There are two access mechanisms at PNCC:
 - a. Screening Access
 - i. Sample preparation services and training for users with limited cryoEM resources.
 - b. General Access
 - i. User training and data collection with grids ready for cryoEM.
3. There are two ways to [schedule experiments](#):
 - a. Static Reservation
 - i. Provides a reserved block of time with exclusive use of a microscope.
 - ii. Primarily used for on-site visits and training.
 - iii. To visit on-site, requestors(s) must submit an [On-Site Badge Form](#) to our [user office](#).
 - b. [Dynamic Queue](#)
 - i. Faster turnaround times with more lenient cancellation policies.
 - ii. Primarily for service requests (screening or data collection).
4. Complex instrumentation can fail. PNCC will happily refund time lost due to microscope failures but cannot guarantee operation outside of standard hours. PNCC standard operating hours are weekdays from 9 am to 5 pm (Pacific).
5. Misuse or abuse of any PNCC policies, instruments, or staff can lead to a reduction (or revocation) of access.

Sample Policies (Declaring, Handling, Shipping, Storage)

1. Proposals have a table of the “sample” types described in the proposal submission process:
 - a. This table must accurately declare the biosafety status of each sample type.
 - b. Samples sent that are not on this list will be returned or disposed.
 - c. The table can be amended during an [Extension Request](#), if new samples fit within the scientific scope of the proposal.
2. [Shipments](#)
 - a. Sample shipments must include a [sample submission form](#) with the PNCC proposal number. Shipments without a sample submission form will not be booked until received.
 - b. Grid shipments must include a pre-paid shipping return label, [grid submission form](#), and the PNCC proposal number. Shipments without return labels will not be processed until a

return label is supplied. By default, dewars are returned to users as soon as possible, without samples/grids.

- i. Additionally, international shipments must include a copy of the declaration paperwork and commercial invoice.
3. PNCC will store user grids for four months. After this, users will be given a two-week notice to arrange for grid return before grids are disposed.
 - a. PNCC is not authorized to return BSL-2 grids, only to receive them.
 - b. Grids used for data collection, by default, will be discarded after the data collection session.

Static Reservations

1. Scheduled approximately four weeks in advance.
2. Earliest availability will vary based on hours/days requested and current facility load.
3. The PNCC User Office will work with users to schedule static requests.
4. Scheduling is prioritized as: **Screening (Stage I/II/III) Screening Access** > **Screening (Stage I/II) General Access Independent** > **Screening (Stage I/II) General Access Training** > **Data Collection General Access** > **Screening (Stage III) General Access**
5. Cancellations:
 - a. With ≥ 2 weeks' notice: full refund of hourly cost.
 - b. With < 2 weeks' notice: 50% loss of reserved time (minimum of 24 hours).

Dynamic Queue

1. Instrument schedules are managed to minimize queue waiting times. Queue schedules may shift to adapt to equipment failures, cancellations, etc.
2. Check the [dynamic queue](#) for status updates to requests.
3. Requests in the queue will be skipped if samples are not "ready". Samples are considered "ready" if they meet the following criteria:
 - a. Stored onsite in PNCC grid storage.
 - b. For screening: frozen and clipped.
 - c. For data collection: clipped and screened.
4. Requests in this queue are scheduled weekly on Fridays for available resources. Delays in scheduling can result from:
 - a. Availability of requested resources.
 - b. Available hours prior to scheduling.
 - c. Absence of return shipping label with shipping dewar.
5. Scheduling is prioritized as: **COVID-19 Research** > **SPA Data Collection** > **Tomography Data Collection** > **Screening (Stage III)**
6. Cancellations:
 - a. With > 1 day notice: full refund of hourly allocation cost.
 - b. With ≤ 1 day notice: refund of remaining time after 9 am the next day.

Screening Overview

1. PNCC divides sample screening services/activities into three categories:
 - a. Stage I – Grid/Ice Optimization: process of finding conditions that produce grids with ideal ice thickness given a combination of sample, buffer, and freezing apparatus.
 - b. Stage II – Sample Optimization: screening grid substrates, detergents, or other additives to optimize sample distribution on a grid. PNCC does not offer sample preparation or purification optimization services but does offer consultations with staff.
 - c. Stage III – Grid Prioritization: identifies which grids would be ideal for high-resolution data collection (i.e. “Krios-ready” grids, see “Data Collection Microscope Services, #3” below). Grids at this stage of screening are expected to have already moved through ice and sample optimization.
2. Screening services conducted by PNCC staff, under either access mechanism, are prioritized for users who lack resources at their home institution. If you are unsure of the cryoEM resources near you, PNCC can help direct you to these resources. Priority is categorized as follows:
 - a. High – lacking all cryoEM resources locally and at surrounding institutions.
 - b. Medium – resource-limited institution, lacking nearby vitrification equipment.
 - c. Low – sufficient vitrification resources, lacks screening resources locally or at nearby institution.
 - d. None – home institution has cryoEM resources fully available.

Screening Preparation Services (Stage I/II)

1. Screening Access:
 - a. On-site access for grid preparation and optimization with SPOC support.
 - b. Maximum of 3 samples per proposal and 4-8 grids prepared a day.
2. General Access:
 - a. PNCC will provide access to instrumentation, training, and consultation, but users must conduct the bulk of the work independently. See ‘Independent Use’ below.
 - b. PNCC prefers to receive clipped grids. PNCC will clip grids for proposals if groups are high/medium priority. Relying on PNCC to clip grids may delay scheduling.
 - i. [SubAngstrom](#) offers discounts to their clipping station for PNCC users.
 - c. Screening Access has priority over General Access for screening preparation services.

Screening Microscope Services (Stage III)

1. Since the goal of screening varies (assessing sample or grid freezing conditions, triaging grids for data collection, etc.) it is important to communicate with SPOCs before the screening session.
2. Screening is restricted to the Arctica or Glacios Microscopes.
3. Screening Access:
 - a. Requested as 6-hour (up to 8 grids) blocks a day.
4. General Access:
 - a. Requested as either 6-hour or 24-hour (for screening and overnight data collection) blocks (up to 11 grids).

Data Collection Microscope Services (General Access Mechanism only)

1. Time can be requested in 24 hours increments, to a maximum of 120 hours.
 - a. 2 grids can be loaded per 24 hours requested for a maximum of 10 grids per request.
 - b. A maximum of 120 hours per PI per week can be scheduled.
2. A separate [experiment](#) must be submitted for each desired data collection “session.” “Sessions” represent separate datasets - either different samples/grids or data collection setups. PNCC will setup data collection on one grid per 24 hours.
3. PNCC requires receiving “Krios-ready” grids for data collection. Grids are considered “Krios-ready” if the same grids have been screened in another auto-loader system or identical replicas of the grids were screened via side-entry microscopes.
 - a. Cancellation policies still apply to any grids that are deemed unsuitable for data collection by PNCC staff.

Independent Use

1. A user must be certified for independent use of PNCC equipment.
2. SPOC support will be limited and not guaranteed for independent users.
3. Sample preparation resources can be requested with a Static Reservation.
4. PNCC staff inspects all grids before loading autoloader cassette. Grids that are improperly clipped will be skipped.
5. Independent users are encouraged to use the microscopes outside of standard hours:
 - a. Screening during the evening (after 5 pm), or on Saturdays (11 grids max).
 - b. Data collection during a weekend (11 grids max).

Time Allocation Policies

1. Screening Access
 - a. Proposals are issued up to 5 days of on-site PNCC access.
 - b. Hours expire four months after award.
2. General Access
 - a. Proposals are issued allocation(s) for instrument access in blocks of up to 120 hours.
 - b. Proposals are limited to a maximum 480 hours per year.
 - c. PNCC does not guarantee the opportunity to utilize the full 480 hours.
 - d. New allocations can be requested by submitting an [Extension Request](#).
 - i. New allocations are issued when the current allocation is exhausted.
 - ii. New allocations may not receive a full 120 hours.
 - iii. Allocated hours cannot be banked or held indefinitely.