

Using Synchrotron Beamtime

Department of Biochemistry
University of Cambridge

Instructions for Users

Step 1: Register Protein

When: *At least 3 week in advance for DIAMOND, ESRF and SOLEIL.*

How: *Fill in the New protein form downloadable from the website [CXE-Protein Registration-v2017](#) or from paul (pdb47).*

Step 2: Make a booking

When: *At least 1 week in advance for DIAMOND and 2 weeks for ESRF and SOLEIL*

How: *Use the online booking system <http://xray.bioc.cam.ac.uk/booking/>*

Important points:

- Please note that the **timings** in the booking system for the synchrotron beamtimes **have no meaning**. The time slots will be allocated later.
- The actual **start and end times** of the beamtime can be found in the “**Description:**” field.
- When booking the beamtime **consider the nature of your experiment** and match your beamline choice accordingly. Be aware that **microfocus** (e.g. I24) or **tunable** wavelength time (e.g. I04) may be limited.
- In the “**User’s Name:**” field put your name, and, in brackets, the amount of time that you are likely to require and your email, for example “*Paul Brear (1 hour, pdb47)*”.
- Please be realistic with the amount of time you’d like to request, especially for short beamtimes.
- Put the protein that you will be collecting data from in the **Description** field.
- Increment the time in “**Duration:**” field by an hour from the previous booking.

Add Entry

User's Name: Paul brear (1 hour)

Description: Pk

Date: 12 Jan 2018

Time: 7:00

Duration: 1 hours All day

Area: Synchrotron

Equipment: Beamtime
Dry Shippers

Research Group: Hyonen

Repeat Type: None Daily Weekly Monthly Yearly Monthly, corresponding day n-Weekly

Repeat End Date: 12 Jan 2018

Repeat Day: Monday Tuesday Wednesday Thursday Friday Saturday Sunday

Number of weeks:

- Once a booking marked “**Trip full**” appears; no more bookings can be added to the beamtime. If you still want to use this particular beamtime, please contact paul (pdb47).

07:00~08:00	MX14043-66	19:00	Sat 20 Jan 2018
08:00~09:00	Paul brear (2 hours, pdb47)		
09:00~10:00	Sherine Thomas (2 hours, set44)		
10:00~11:00	Chris Morton (3 hours, crm72)		
11:00~12:00	Qian Wu (2 hours, qw222)		
12:00~13:00	trip full (please email pdb47 before		

Step 3: Obtain the pucks

When: A few days before but not more than 1 weeks before the shipping date

How: The pucks can be obtained either from Paul (room 3.54)

Important points:

- Once given a puck, **you are responsible for it until returned** to Paul. Do not give your pucks to other users/colleagues even from the same research group.
- Pucks loaded with crystals can be temporarily stored in the long-term storage Dewar 5, Canister 4 in the X-ray room (room 1.60).

Step 4: Time slots allocation

When: At least 1 week in advance for DIAMOND and 2 weeks for ESRF and SOLEIL

How: The Teamleader for the beamtime will email everyone booked for this beamtime and confirm time/puck requirements

Important notes:

- Please answer all questions in the email promptly.
- If the trip is **short and/or heavily oversubscribed** be prepared that you will not be allowed to overrun your time slot.
- If there are **technical issues** with the beamline then the later time slots will be **shortened** appropriately.
- Make sure that the Teamleader has your **contact information**, i.e. your e-mail address and a phone number, which can be used to reach you out of hours.

Step 5: Loading the Dry Shipper

When: *On the day before or on the morning of the shipment day*

How: *Load your puck into the shipping canes placed inside a designated dry shipper located in the X-ray room (room 1.60)*

Important points:

- Ensure your **puck base and lid numbers match**.
- If there are multiple dewars please record which dewar your puck is in.
- Do not leave the long-term storage **dewars or dry shipper open** for a long periods of time.

Step 6: Insert samples and pucks into ISPYB database

When: *Before the shipping, i.e. when you load your puck into the dry shipper.*

How: *Login into ISPYB <http://ispyb.diamond.ac.uk>. Go to the corresponding proposal (see below) then to the shipment (see below), click "+Add container" button and fill in container name (see below) and the names of your samples in the puck*

Important points:

- The **proposal number** can be found in the booking system of the corresponding beamtime in the "**Description:**" field, i.e. "**mx9537**"
- The **name of the shipment** should be in the following format "proposal_number-number-date", i.e. "**mx14043-64_14122017**"
- The **container name** is the puck number, i.e. "CXF-0001"
- **Only pucks** listed in ISPYB will be sent to synchrotron.
- **Ask Paul** for a demonstration if unsure.

Step 7: The actual beamtime

When: *During the actual beamtime*

How: *Finish the data collection within your time slot. Do notify the next person that you have finished, especially if finished early*

Important points:

- All users should familiarise themselves with how to set up remote access ([Remote data collections 2017](#)) and how to use the GDA client (<http://www.diamond.ac.uk/Beamlines/Mx/Common/Common-Manual/Using-New-GDA.html>)
- If you are the first user of the beamtime make sure that you are available **2 hours before** the actual beamtime start. You will be contacted by the EHC or local contact about when you can start the data collection.
- All other users should be ready **1 hour** before their beamtime starts.
- In case of **problems with the beamline**, call the beamline **local contact** and/or the Experimental Hall Coordinator (EHC) on 01235 77 8787.
- **Keep Teamleader** and the team members **informed** of any problems and delays.
- **The last user** must make sure that **their last crystal is removed from the goniometer head** from the goniometer head.
- If the remote workstation was used, the last user must **shutdown the remote workstation**.

Step 8: The return of Dry shipper(s)

When: *2-3 days after the beamtime*

How: *The Teamleader will e-mail you once the Dry shipper has arrived. Remove the pucks from the Dry shipper, defrost them and return them to Paul (room 3.54).*

Important points:

- The returned dry shipper(s) will be placed in the X-ray room (room 1.61).