SupraFAB

How the `SPA data acquisition – Titan Krios (FU Berlin)´ service works

Preamble. *As regulated by the DFG procurement directives, primarily the proposers can get access to measurements at the Titan Krios until the end of 2024.*
To provide the best possible results and services to the users, we decided to let the qualified staff of the Forschungszentrum für Elektronenmikroskopie (FZEM) do the measurements. They will also schedule the measuring times and order for best utilisation of the machine.

To keep track of all inquiries of interested parties, we are using OpenIRIS as booking and documentation platform. Hence, if you (your group members) want to collect SPA data at the Titan Krios, please use the `Participate in SPA data acquisition (FU-Berlin)´ service which is publicly available on fub.openiris.io/resources, to provide the necessary data required to adjust your access to OpenIRIS and to our SPA booking service `SPA data acquisition – Titan Krios (FU-Berlin)´. It will take your name, institutional email address, and, if your institution already uses OpenIRIS, your group name in OpenIRIS. You can also specify the group members that shall get access to the service. If so, we need their names and their OpenIRIS account email addresses (attached as text-file), too.

Once registered with SPA, you (and your registered group members) can request beam times using the `SPA data acquisition – Titan Krios (FU Berlin)´ service. This starts a workflow that, hopefully, provides the best support for unexperienced as well as advanced users and ensures optimal conditions for successful data collections. New group members that shall use the SPA workflow can register themselves, later on, using the `Register to SPA (FU-Berlin)´ service.

In the following, the overall SPA data acquisition workflow is described. How to request this service is described in detail in a separate handout.

- On request submission, the requesters group head will automatically be informed of the request by email. Attached to this submission mail, the group head will find the filled form with the details of the sample and acquisition strategies. The group head has to approve (or reject) the request (even if he/she had requested him-/herself). With this approval the group head also accepts the usage policies of the Core Facility BioSupraMol (User Guidelines) as well as the obligation of the usage costs.

- Only after approval, a workflow containing several tasks is started:

  - Normally, the workflow starts with a preliminary talk with the responsible staff at the Forschungszentrum für Elektronenmikroskopie (FZEM) to discuss the project and the required preliminary work (which may be already done), the lead times that must be met, necessary precautions for handling the sample and during the grid preparation, etc.

  - Preliminary TEM tests (stain or cryo-TEM) are not included in the workflow. They can, however, be enquired at the FZEM (Dr. Kai Ludwig). We will facilitate such measurements depending on the utilization of the electron microscopes.

  - Once all the demands for a successful data collection are met, the request will be accepted or declined, and the requester will be informed of the decision.

  - Operation of the requested data acquisition will be queued considering the quota of the respective group as outlined in the 91b proposal.

- If not yet done, cryo-TEM grids of the sample will be prepared, clipped into autogrids and stored until measurement. Cryo-TEM grids can also be prepared by the requester. In this case they can be stored at the FzEM or brought at the day of transfer to the microscope. *Please note that measurements can be postponed by the staff if the sample is not present at the scheduled start time.*

- The actual data collection will be scheduled by the staff in consideration of the utilisation of the microscope. Measurements start with the transfer of the grids to the microscope, followed by routine set-ups of the required optical settings, and the set-up of the session. The automated data acquisition will end after the requested period of time or number of micrographs. If desired, extension of the acquisition time can be negotiated upon availability.

- Members of the core facility BioSupraMol will get their data stored on the BCP shared network drive. All others have to take their data into charge within a few days after the acquisition is completed. Therefore, a mobile USB3-harddisk (at least 6 TB capacity) should be present during setup of the data acquisition. Please check your data immediately after receipt since we have to delete all data within several days due to limited storage capacities. *We will not take on responsibility for any data loss after transmission to the requester and deletion from our server.*

- If all necessary tasks are completed, the request will be closed. The requesters can follow the progress of their requests on fub.openiris.io.

- Costs will be charged according to the usage policies of the Core Facility BioSupraMol (User Guidelines). In cases where preparations turn out not to be suited for high resolution data acquisition, only the first day will be charged.

Final comments.

Appointments for sample preparations can be made with the staff.

Attendance at the measurement is not required but highly recommended to facilitate best data quality. Off-site attendance is possible and due to the pandemics conditions the only possibility at present. If attendance at set-up of the data collection is desired, we will provide you with a short-term information (approximately one week before the estimated measurement), make an appointment, and schedule your sample accordingly.

Data pre-processing is not part of the SPA data acquisition workflow but can be requested upon availability of resources.