C-Trap Facility - User guidelines

Bookings

Please contact ruben.casanova-saez@umu.se for planning of the experiment (sample preparation and type of C-trap setup) prior to book. After defining the type of experiment, the user will get booking permits.

Bookings must be approved by the facility manager, to ensure the C-Trap is available on the booked days (e.g. no service planned).

Booking slots

The time that an experiment or quick test takes at the C-Trap can range from a few hours to days.

This is due to calibration time and largely depends on the requirements of your experiment:

- Experiment on flow-cell slides: the microfluidics system involves cleaning (before/after every experiment, and in some cases during the experiment if changes between conditions are required) and passivation steps which can add up to 2 hours to the day of the experiment.
- Experiment on customized regular glass slides: if no microfluidic flow cell is needed, like for some mechanobiology experiments, the time to setup the system for the experiment is considerably reduced, and a quick test could be performed in half a day.
- Whether the user wishes to measure forces involved in single-molecule events, to perform fluorescence imaging of single molecular events, to track molecular events over time, or over time under different chemical/molecular environments, will define the time required to obtain data with an appropriate number of replicates.

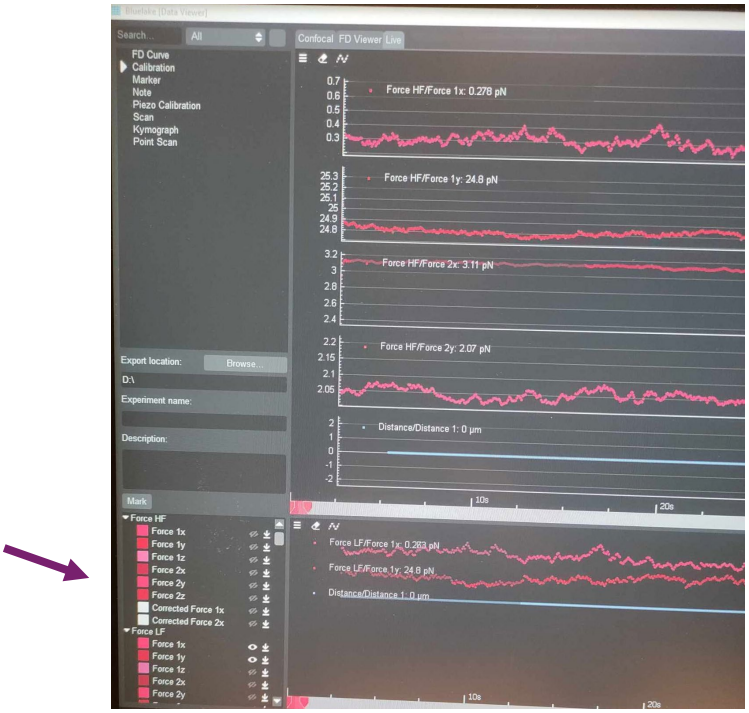
The estimation of the slots required for your experiment are a part of the experiment planning together with the facility manager.

Data export

The C-Trap instrument records all possible data, including background, generated during an experimental session, from the moment it is opened until the session is closed.
Therefore, it is critical to regularly export the data that is relevant to be saved after every experiment.

<u>To export your data after an experimental session</u>:

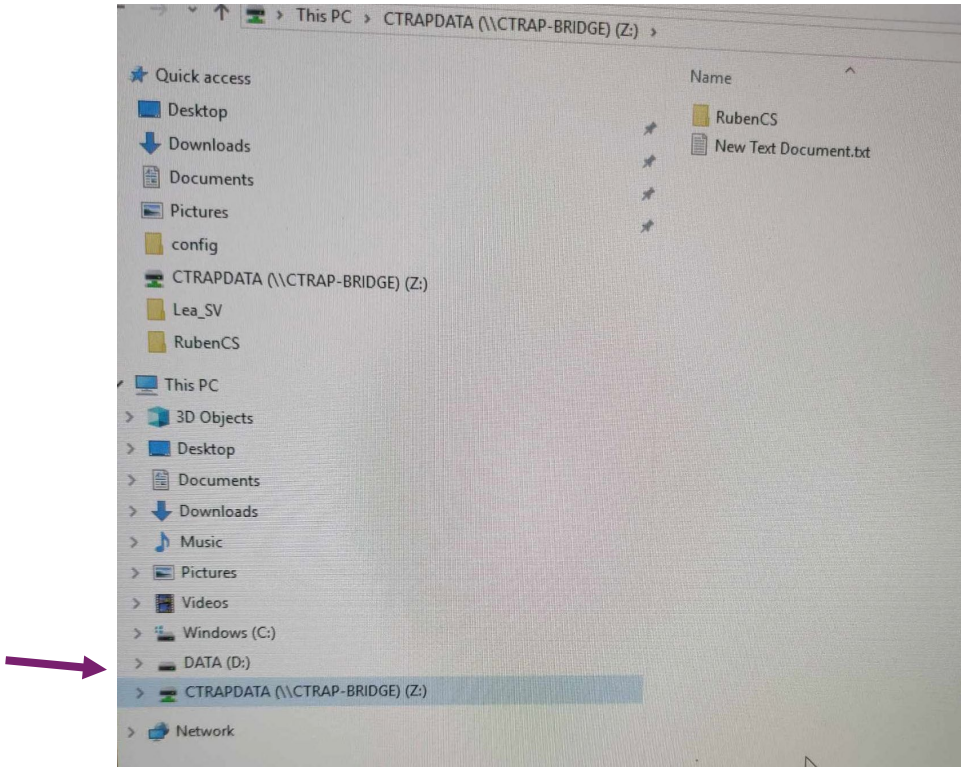
- When opening your experimental session on the *BlueLake* software, go the panel on the left lower corner of the *Data Viewer* window



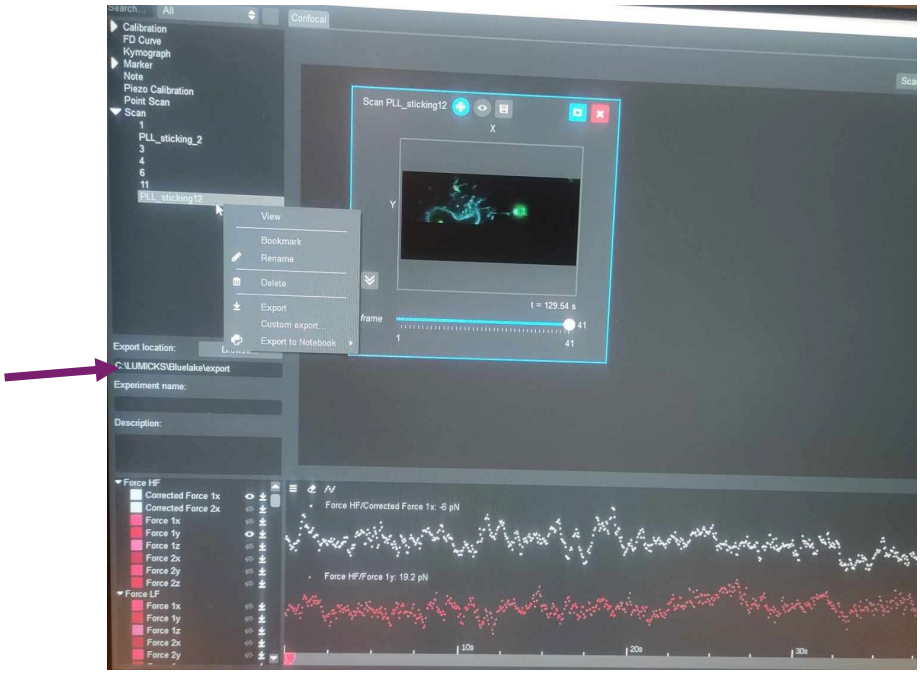
- On this panel one can select which data to view in live mode while running the C-trap (eye symbol) or which data should be available to export (downloading symbol). This can be done prior to every experiment, and the users will get advice from the facility manager.

- On left upper corner, the list of the data that can be exported is shown.

- Prior to exporting, create a user folder in the local disk DATA (D:) or directly in CTRAP-BRIDGE (Z:) disk. This last one is locally connected to the BRIDGE PC, which is located by the C-trap computer. While no data analysis and connection to the internet is allowed on the C-trap PC, the Bridge PC is connected to the network and the internet, and it is the computer for data analysis even while the C-trap is running.

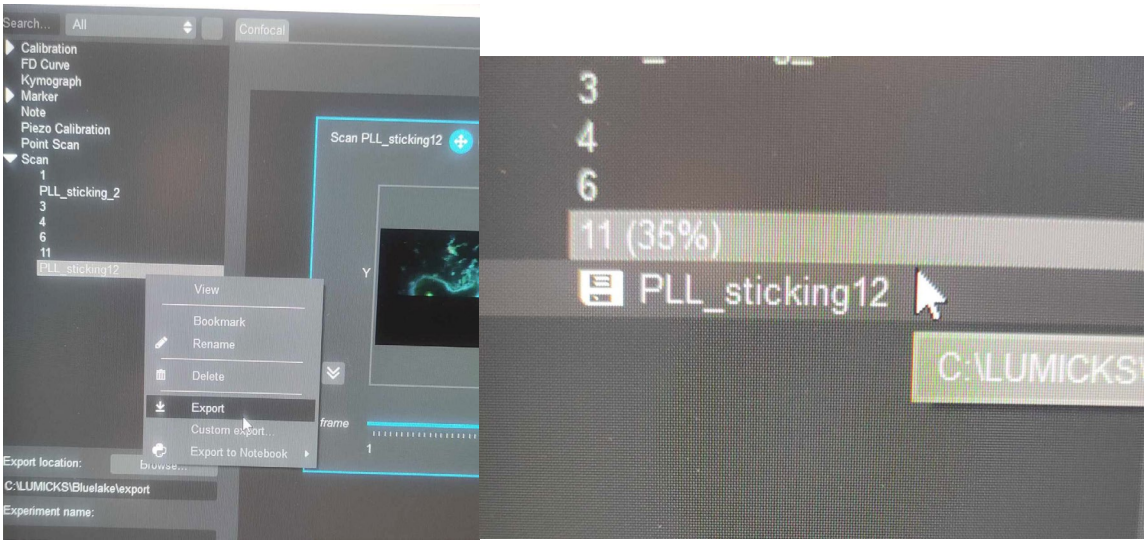


- Specify the Export location, i.e. the path to your user folder



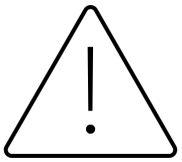
- Select the data you want to export and then right-click

- Click on Export. After export is completed, a floppy disk symbol will show.



- The exported data should appear as files in your folder now. These files can now be open with the *LakeView* data analysis software.

Data storage



No long-term storage is allowed at the C-trap BRIDGE PC !

- The exported data should be moved to your preferred server for storage, which can be done from the C-trap BRIDGE PC.

- Indeed, to avoid external memories to be connected to the PC on regular basis, we require every user to access their storage server directly from the BRIDGE PC.

- An additional backup of the data on an external hard disk or a different server is recommended
  https://www.umu.se/en/library/research-data/preserve/

The following key points come from our Bioinformatics platform manager at UPSC:

- Raw research data has to be kept for 10 years after its last use in a publication by the original data author
- Clinical trials (and related) have 15 years while EU grants have a 17 years archiving requirement
- The data has to be stored in two different physical location
- Having the data publicly available (as e.g. at the ENA or any other online solution) is NOT considered a valid archive, i.e. it does not count as one of the two different locations
- As a summary, storage needs to be organized for over a decade (from the date it is generated until it at least 10 years after it is initially made public)