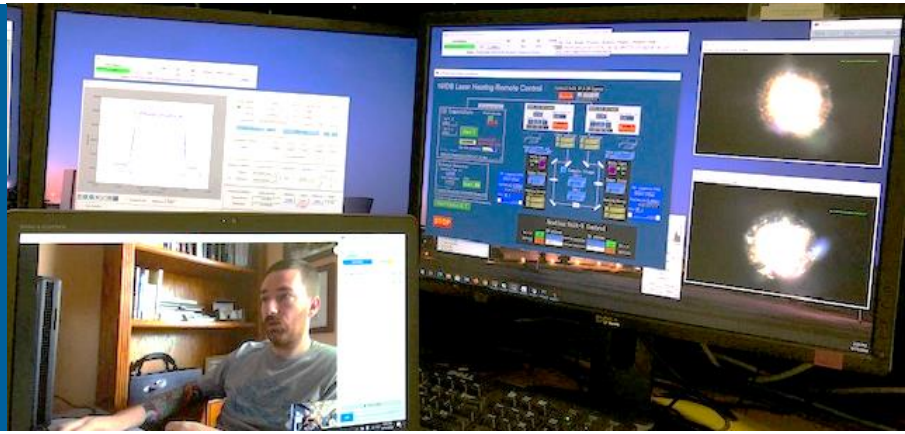
2020-3 USER CYCLE

Argonne NATIONAL LABORATORY

REMOTE OPERATIONS OF 16-ID-B-LH



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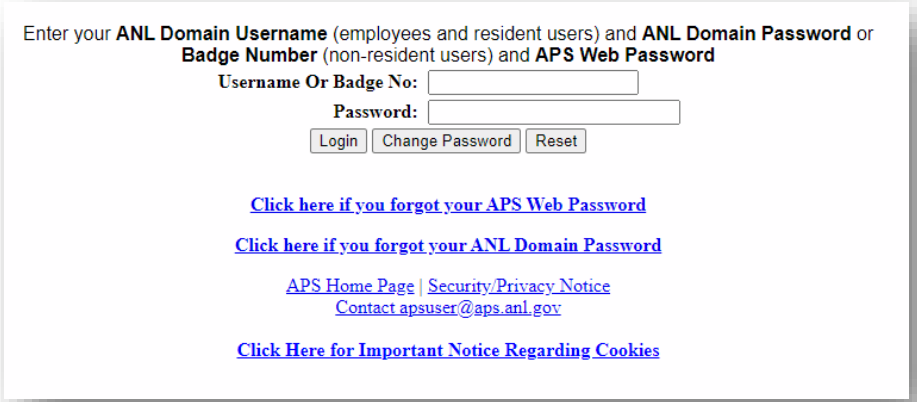
D-BADGE

Credentials for remote connectivity and data access

d*123456*

- Verify d-badge credentials at [APS Beamline User Portal]
- Password should be the same as APS web password
  - Otherwise, reset password using link at User Portal
- Used for NoMachine access as well as Globus data management service



NOMACHINE

NX server for remote access to beamline

delos.aps.anl.gov

- Accessible *via* Google Chrome or Chromium-based browser
- Connect using d-badge credentials
- HPCAT will provide a local machine for testing NX before experiments

NOMACHINE

Recommendations for smooth remote experiment

- We recommend at least one monitor at 1080p or above
- Multiple instances of NoMachine possible, *e.g.* separate tabs in Chrome for separate connections to beamline PCs
- NoMachine is reasonably taxing, we recommend a PC with plenty of processing power and RAM
- Reliable, high-speed internet is a must
- Mac users may be required to use NoMachine desktop client – coordinate with beamline staff
- Working in pairs is a good idea

NOMACHINE

User-available machines and their intended uses

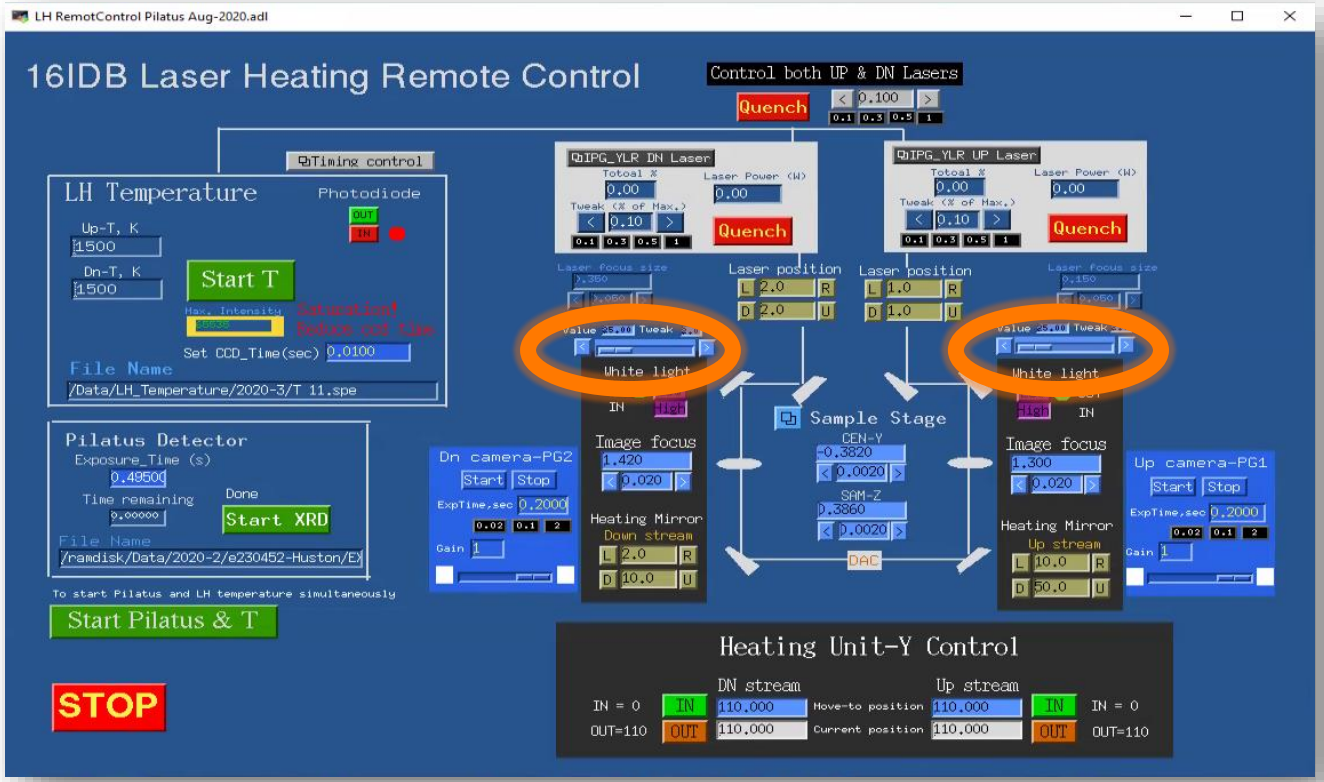
SEC16PC19

- Beamline controls
  - Diptera
  - Pilatus ADL
  - LH and temperature ADL
  - LH visualisation cameras
- Pressure control
  - Membrane ADL
- 3× 1080p monitors

SEC16PC10

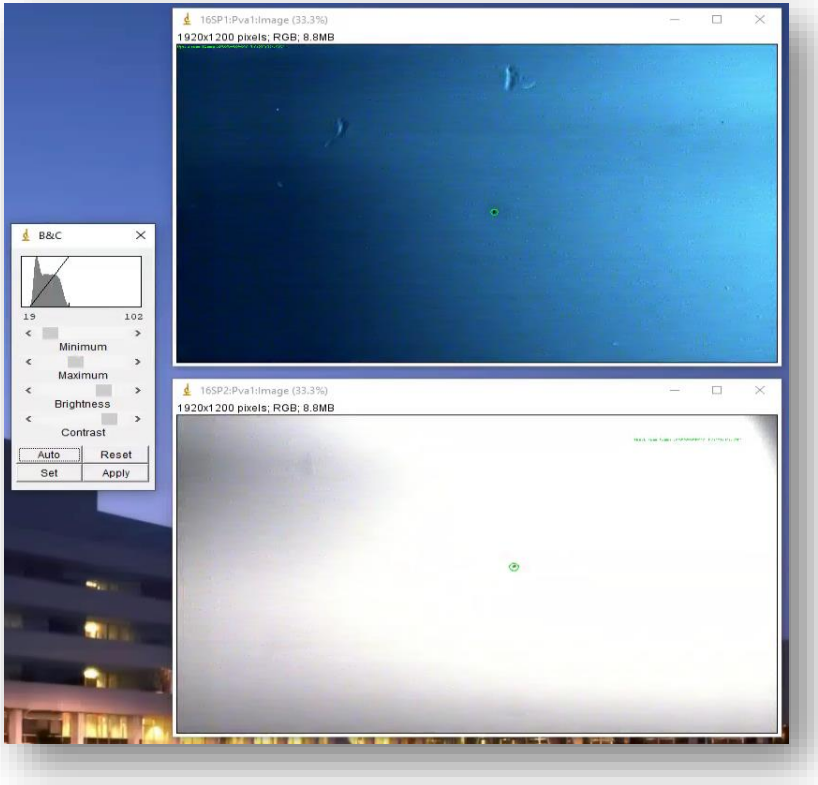
- Temperature measurement
  - *T*-View
- Data analysis
  - Dioptas
  - xdi
- Pressure control
  - Membrane ADL
- 1× 1080p monitor

LH AND TEMPERATURE ADL



LH VISUALISATION CAMERAS

- Imaging cameras on LH system replaced, now possible to view directly on LH control machine
- Control of imaging cameras *via* ImageJ software



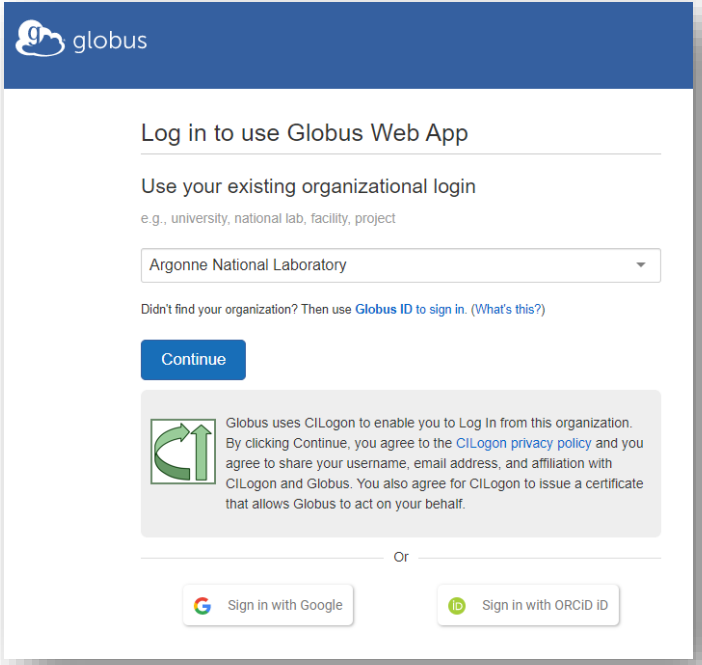
DURING YOUR EXPERIMENT

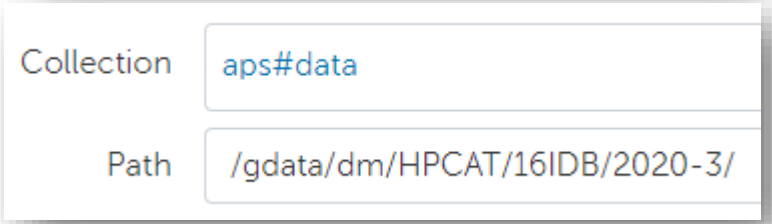
- Please coordinate an experimental plan with beamline staff
  - We have slightly limited access to the beamline
  - We will be handling your DACs
- Expect slightly lower work rate than in-person experiment
  - Especially if training of new users is required

ACCESSING YOUR DATA

Globus data management server

- Sign in to Globus
  - Organisation or personal
- Data is in the collection aps#data
  - You will be asked to verify your access with d-badge credentials
- Path is /gdata/dm/HPCAT/16IDB/
- File folders listed by experiment start date, ESAF ID, and PI name





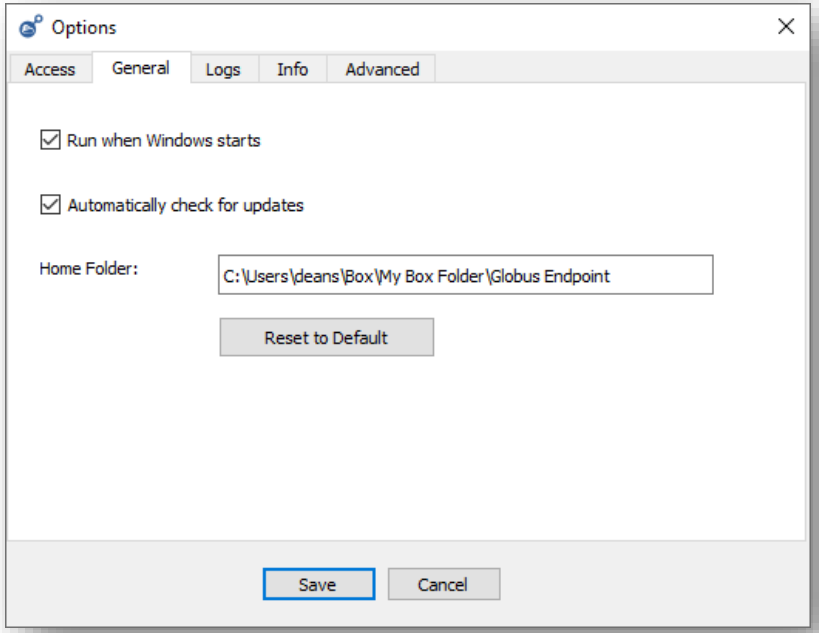
ACCESSING YOUR DATA

Globus Connect Personal

- Download from Globus website

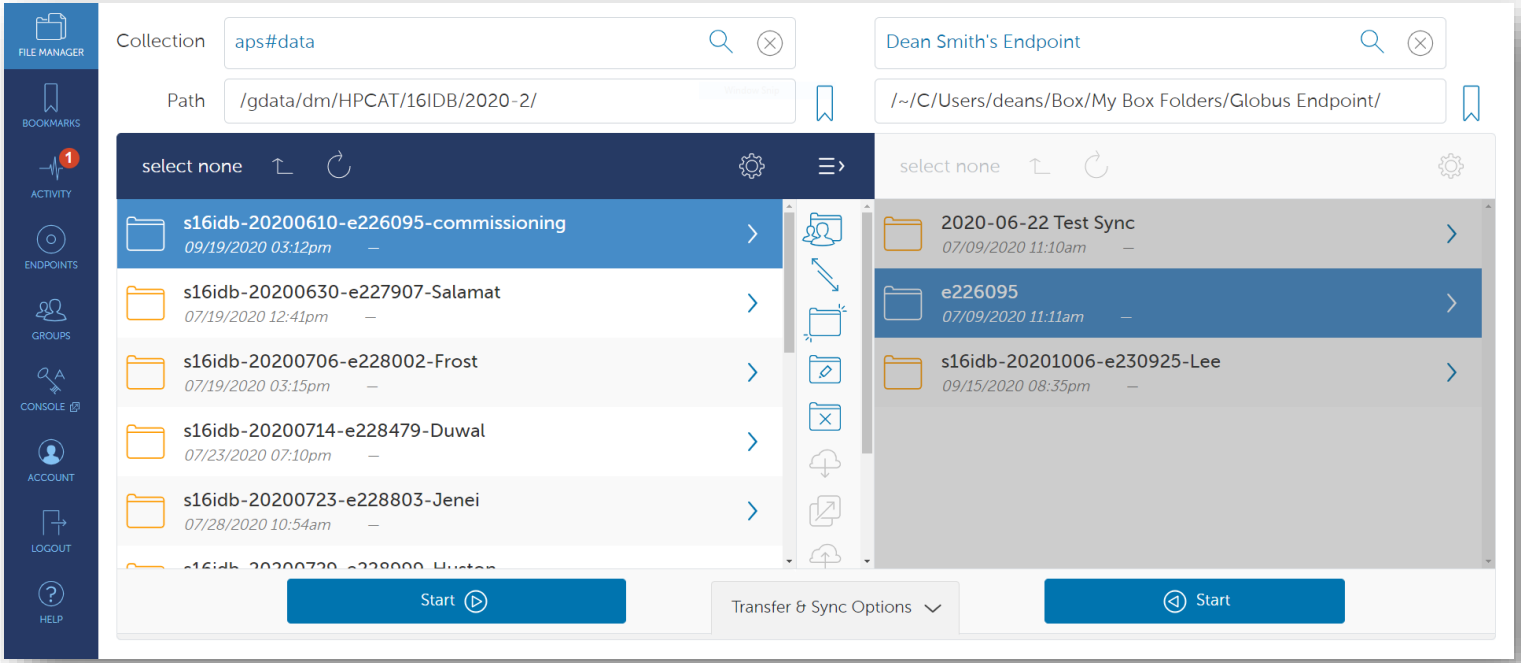
  globus.org/globus-connect-personal

- Create personal endpoint initiate transfer from Globus to your machine



ACCESSING YOUR DATA

Globus Connect Personal



ACCESSING YOUR DATA

Globus tips

- Connection between local (HPCAT) storage and Globus file server is **unilateral**
  - Deleting a file in your experiment folder **will not** remove it from Globus
  - Best practice is to avoid overwriting/replacing documents or deleting files
- There is no way to set up a live link between Globus and your machine
  - Files can only be accessed by requesting from Globus, not instantaneous
  - sec16pc10 is intended for on-the-fly analysis of XRD data

SUMMARY

Checklist for 2020-3 users

- Verify d-badge credentials at APS Beamline User Portal
- Submit ESAF promptly
- Coordinate NoMachine test with beamline staff
- Data folder will be set up by beamline staff, verify Globus access
- Formulate plan and communicate with beamline staff
- Coordinate shipping DACs to beamline staff