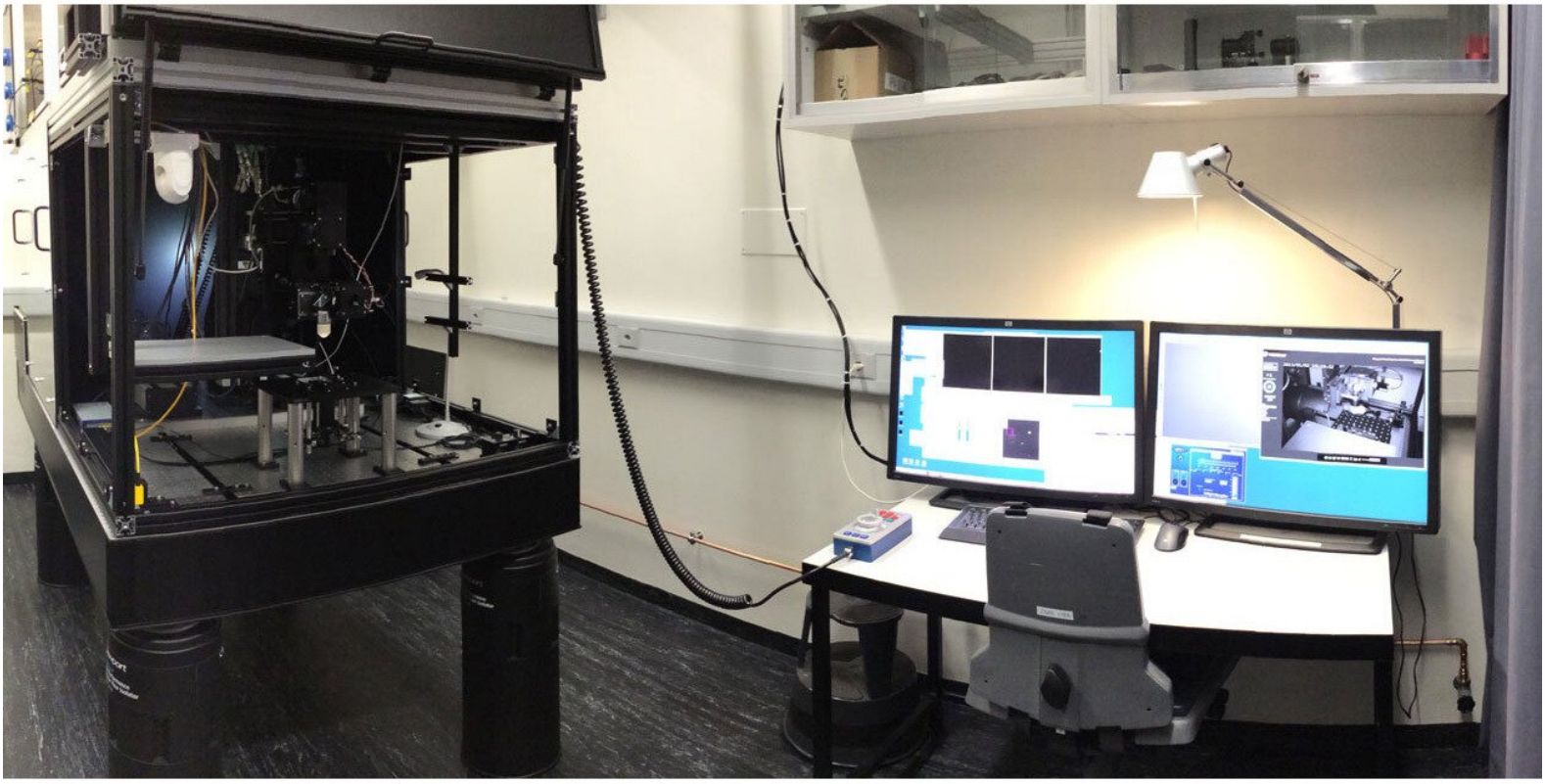
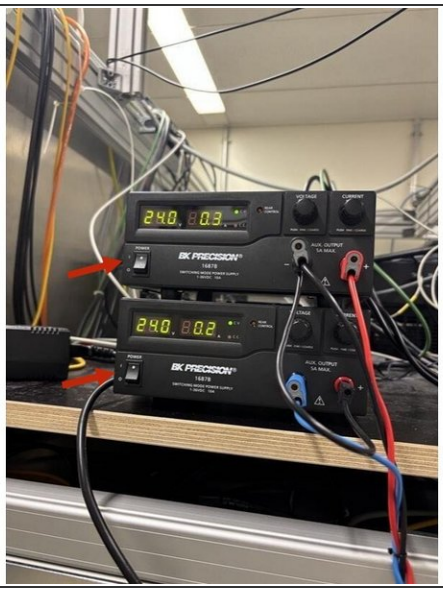
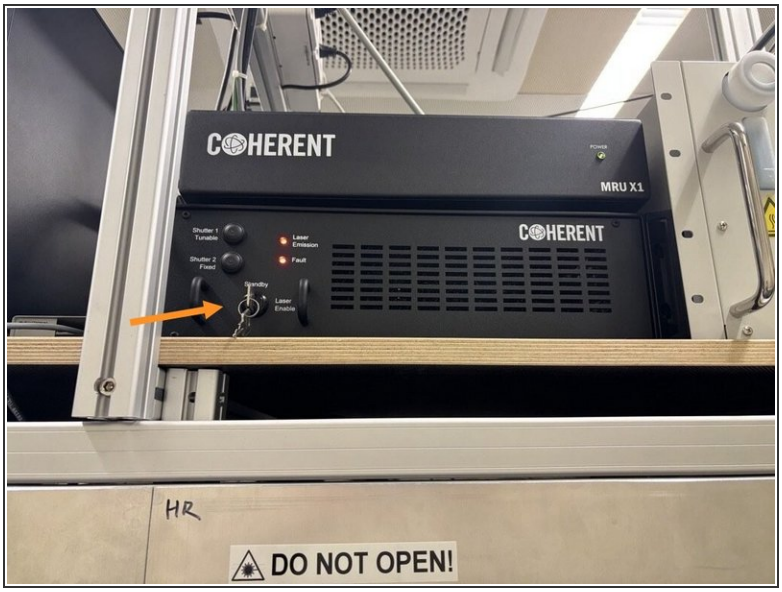
Custom Built MP Microscope (Irchel): Startup and get an image

Written By: Joana Raquel Delgado Martins



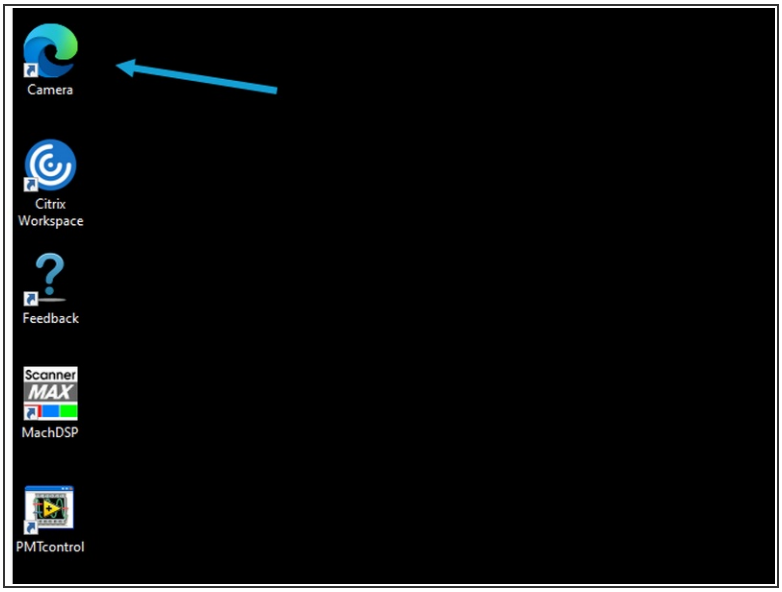
Step 1 — Start the galvos and MP laser

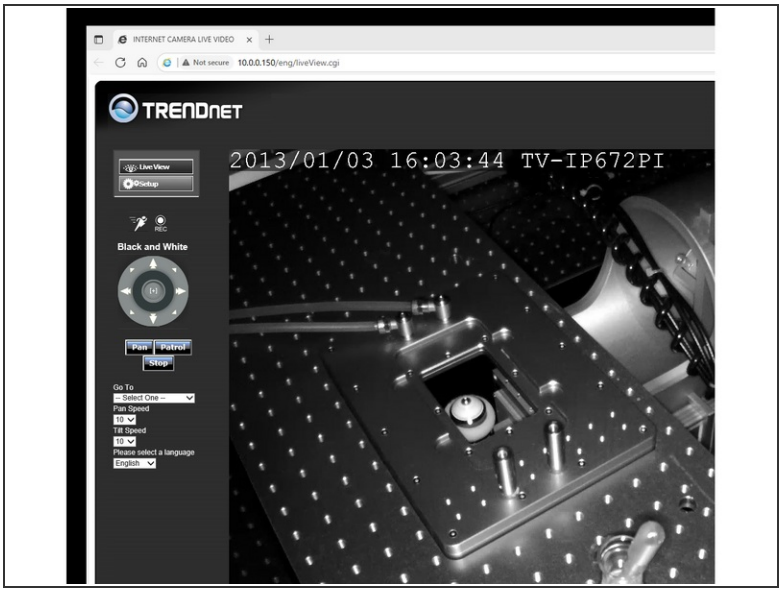




- Turn on the 2 power supplies (top left of the microscope).
  - ⓘ Both should indicate 24.0 V
- Turn on the laser key to "Laser enable".
  - ⓘ The laser is on the top right of the microscope.

Step 2 — Log in, camera

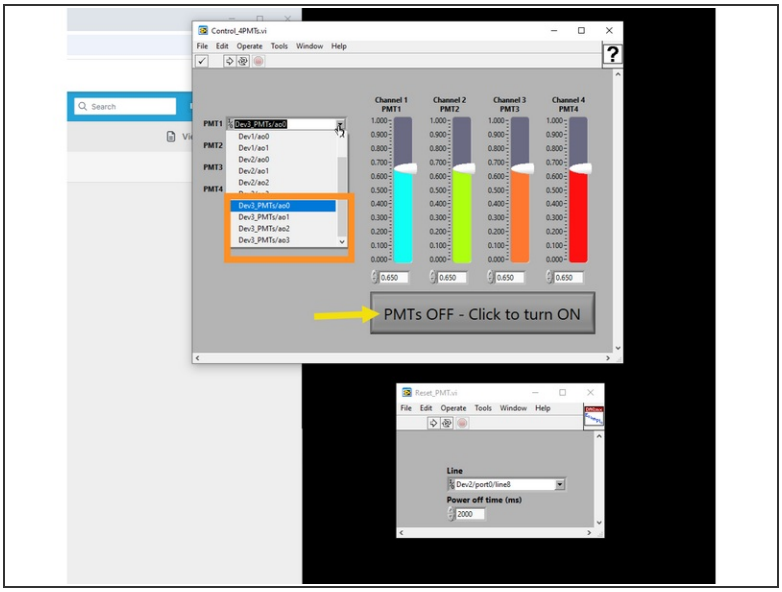




- Log in with your core credentials
- Start the Camera
  - Log in with the appropriate credentials.

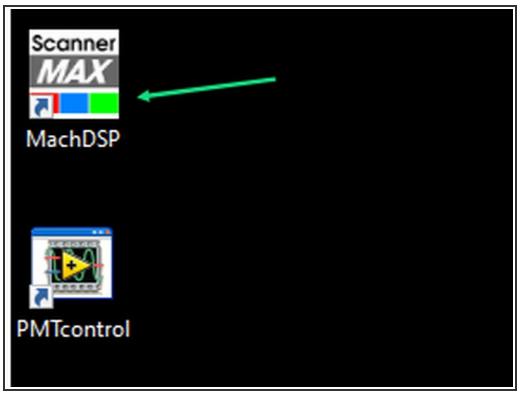
Step 3 — Start PMTs



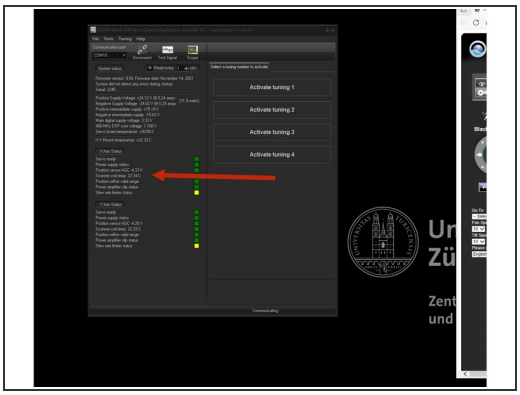


- Start PMT control
  - Adjust size of Reset_PMT window
  - Ignore the error 5x and insert correct device for each PMT
  - Toggle to switch on and off PMTs

Step 4 — Start Scanner

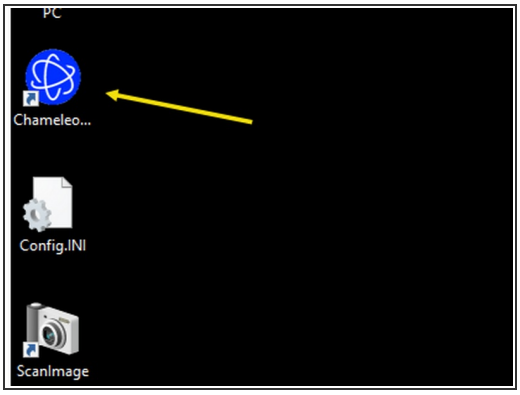


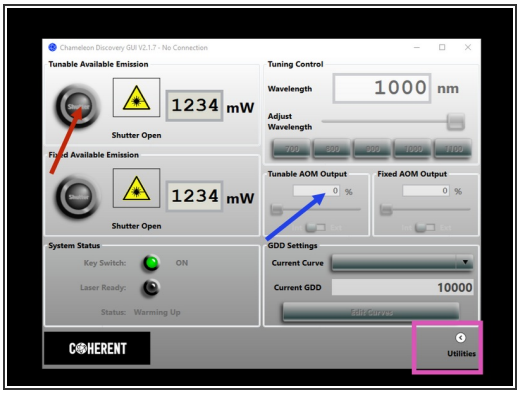


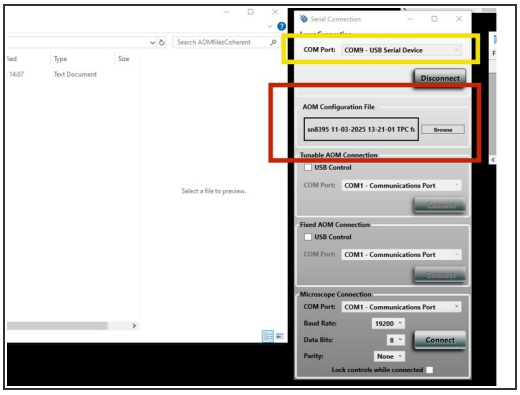


- Start Scanner MAX
- Connect to COM10
- You are now connected. Please make sure when imaging coil temp is bellow 80°C. If not decrease the scanning speed or increase zoom.

Step 5 — Start Tunable Laser



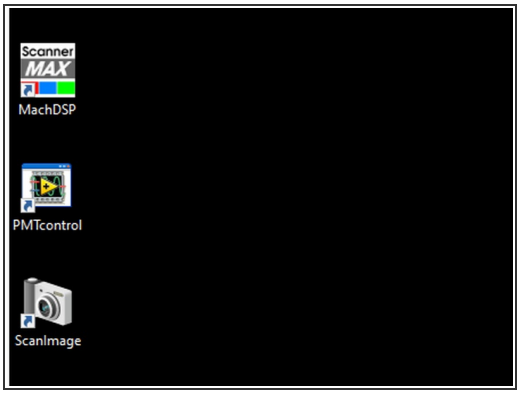


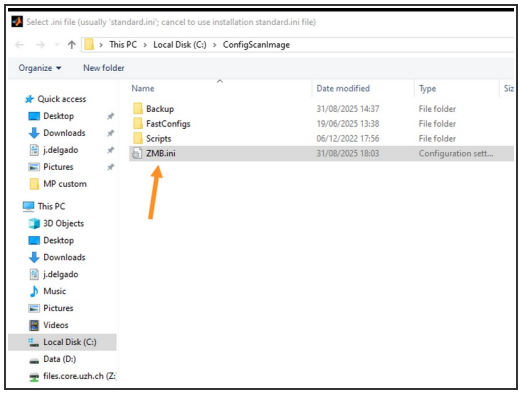


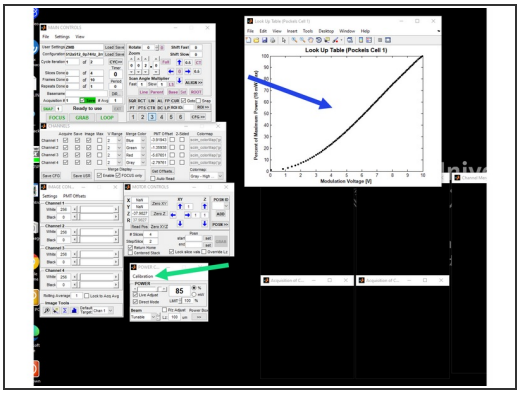
- Start Coherent software
- Select Utilities. Select Configuration
  - Connect to COM9
  - Choose the location of AOM Config file - direct it to C:\AOMfilesCoherent
- Sellect the tunable laser output (eg 50%) and wavelenght.

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Step 6 — Start ScanImage



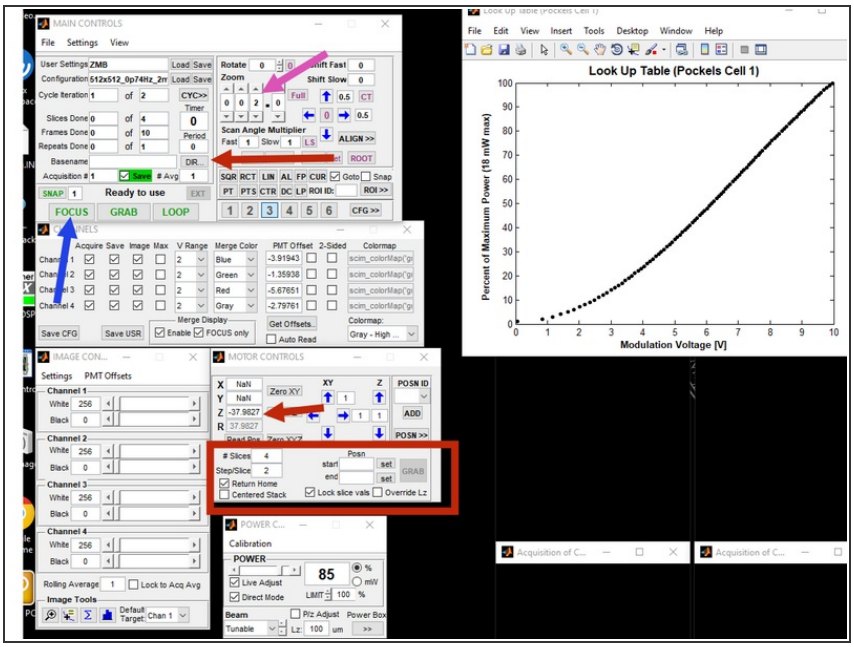




- Start ScanImage
- Start user config (eg Imene)
- Select the instrument configuration “ZMB.ini”
- Calibrate the laser power (eg 50% in the coherent software, you can then tune it further down through scan image eg 10%, this would be 0.5% of the total power)
- Check the calibration curve

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Step 7 — Imaging



- Select the folder where you want to save your data.
  - For fast Ca2+ Imaging choose D:/file/ create a folder with your core credentials (eg. i.sakchi)
  - For slower acquisition saving directly in your data folder will be ideal.

⚠ Keep in mind there is no metadata saved with the image, so make sure you record all relevant information in a separate txt. file eg. laser power, resoltution, speed, laser power

- For z stacks make sure the motors are atposition 400. You can then define top and bottom by moving the z arrows and clicking "set".
- Use "Focus" for live view
- Use "Loop" for timeseries
- Use Grab for a single image