

# Remote Training at CAM

Nov 5, 2020

# How CAM Trained Pre-COVID

- Staff member at scope.
- Up to 3 people at a time.
- 3 hr continuous session.
- Performed with our training slide, but encouraged to bring samples so that end of session we could help them get accustomed to their sample on the scope.

# Now...

- 1 User at the scope while staff member in office.
- Additional lab members can watch remotely- but still need a scope session.
- Training often broken into 2 parts.
- Still performed with our training slide.

# What CAM Staff Need

- TeamViewer on the instrument and on staff computer
- Zoom session
- 2 Monitors!
- Training slide and documents

# What Users Need Beforehand

- Send documents to users ahead of time.
- Have them watch CAM COVID video
- Want them to bring a laptop/charger with Zoom (phone is okay but tougher to use)

# Cost to do this....

- TeamViewer – 3 simultaneous sessions for \$1791 annually (~\$600 discount).
- Added 2 additional licenses last week for \$722 (prorated)

# How long it took

- TeamViewer – 1 hr
- Training Powerpoint-initial documents took a couple days.. Still a work in progress.

# How training begins

- User goes in and starts zoom session.
- Staff shares screen with power point document.
- User starts instrument with guide....



# User Workstation



# Powering on the A1 microscope: Ti-E

Turn on microscope power from the power strip toggle switch.

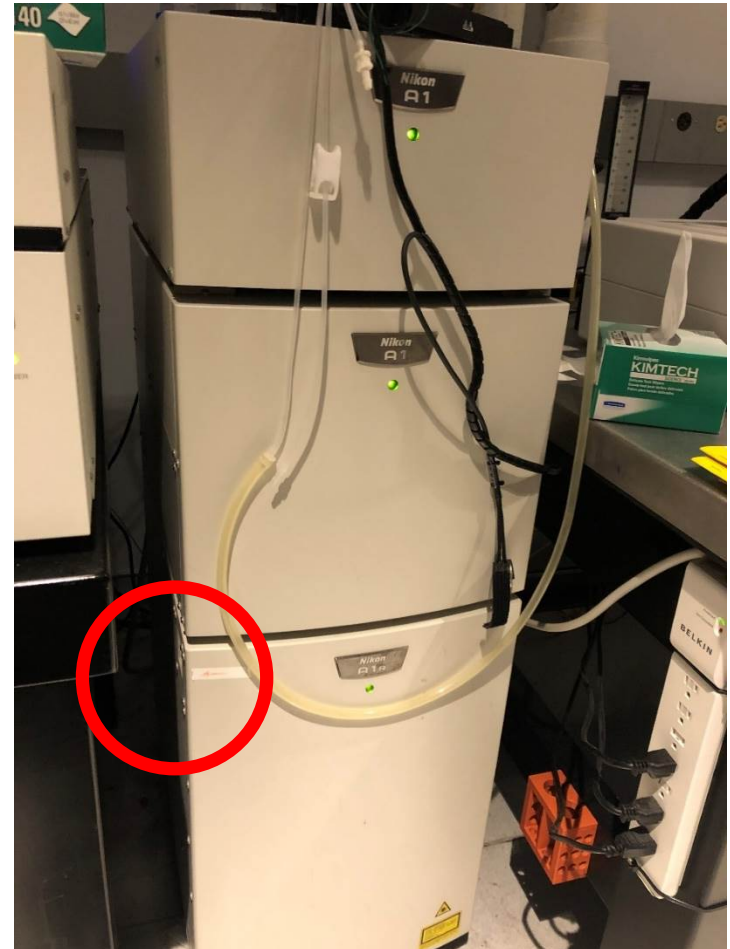
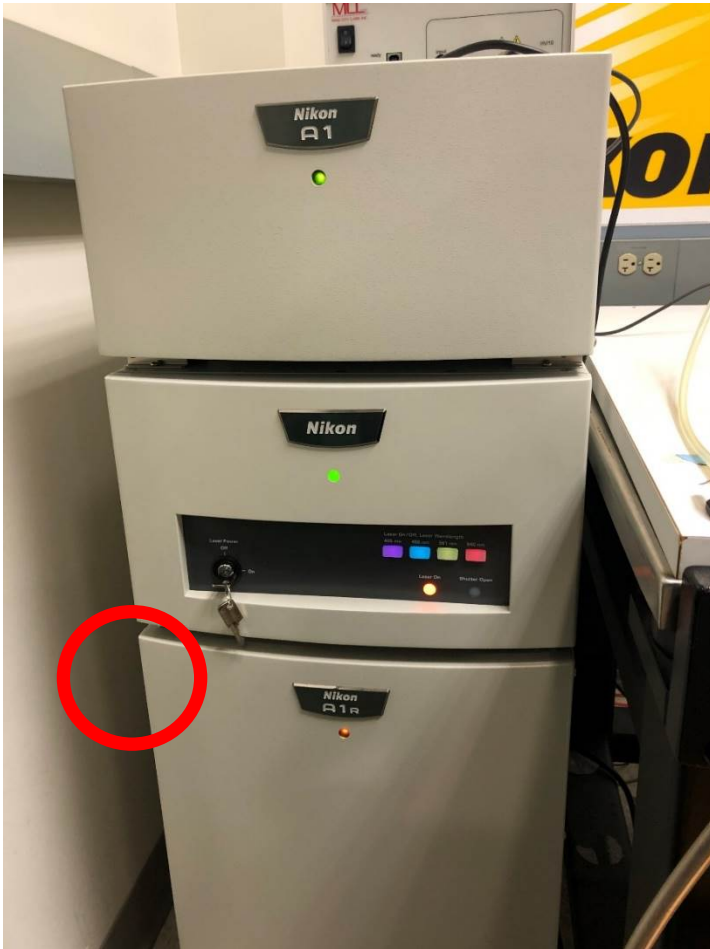
Each A1 has a power strip in a slightly different location:

- A1R A (Spectral): Left leg of instrument table near A1 controller
- A1R B (GaAsP): On top of instrument table to the left of microscope
- A1 C: Right leg of instrument table near the computer



# Powering on the A1 microscope: A1 controller

Power on the A1 controller from a recessed button on the left side of the A1 control tower.

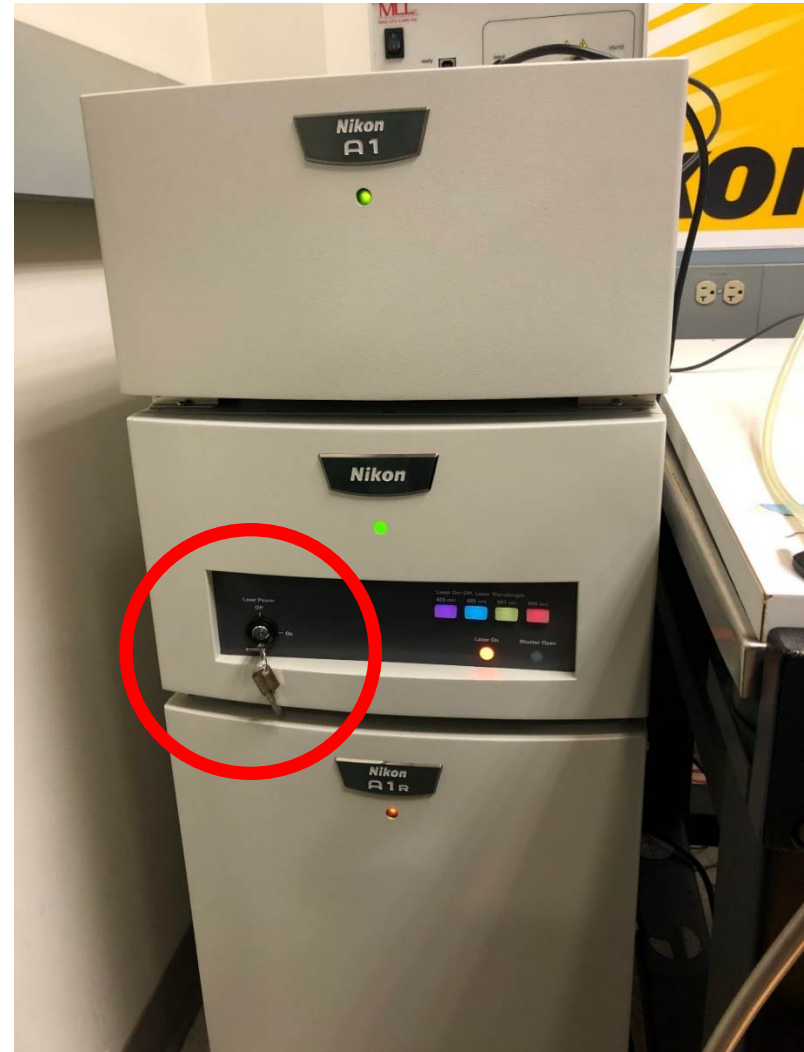


# Powering on the A1 microscope: Lasers (A1R B and A1 C)

Power on the four system lasers (405, 488, 561, 640 nm) using the power key on the front of the A1 controller.

Turn the key to the right to power on, and to the left to power off.

Four colored lights will come on to indicate the lasers are ready.





# Powering on the A1 microscope: Lasers (A1R Spectral)

Power on the four system lasers with four separate keys. Turn each key to the right to power on, and to the left to power off.

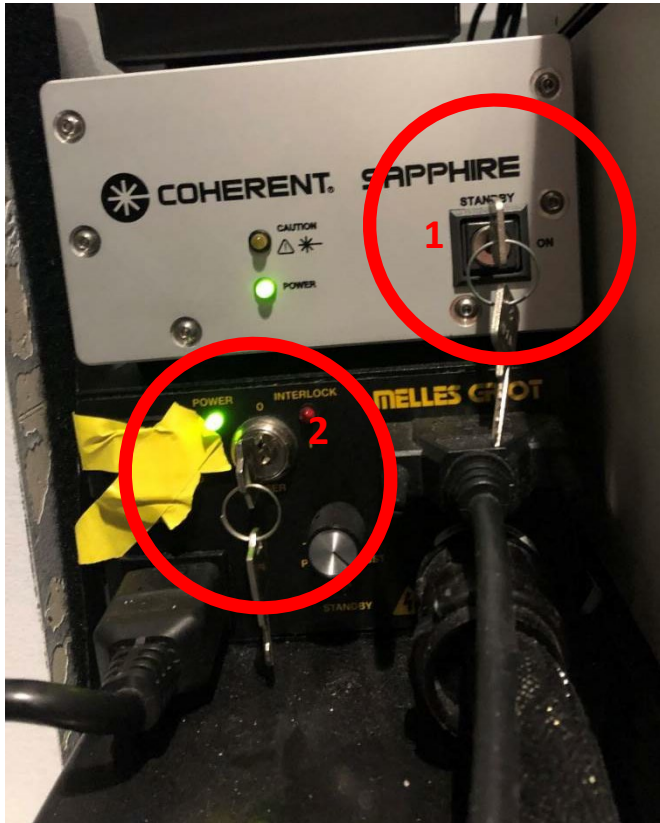
The Melles Griot laser (457/488/514) is an Ar<sup>+</sup> gas laser and has a fan attached. It is normal for the fan to run for a few minutes after the laser is turned off.



# Powering on the A1 microscope: Lasers (A1R Spectral) cot'd

Turn each key to the right (to ON) to power on, and to the left (to STANDBY) to power off.

488nm and 561nm laser controllers:

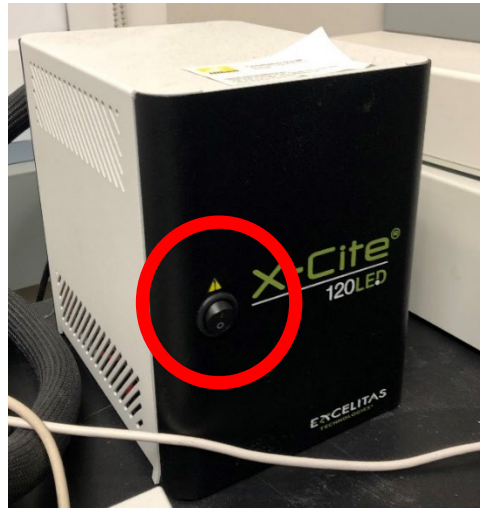


405nm and 640nm laser controllers:



# Powering on the A1 microscope: LEDs

Power on the Xcite  
epifluorescence LED from  
the front power supply



Press the large black knob to turn the LED on and off.  
Turn the knob to change the LED intensity 1 – 100%

Off



On



# Layout of the Ti-E microscope

Left operation panel



Focus speed selector:  
Coarse (fast)  
Fine (medium)  
Extra-fine (slow)

Focus knob

Objective turret  
selector button

Diascopic/transmitted  
brightfield light  
halogen lamp on/off

Transmitted light  
intensity dial

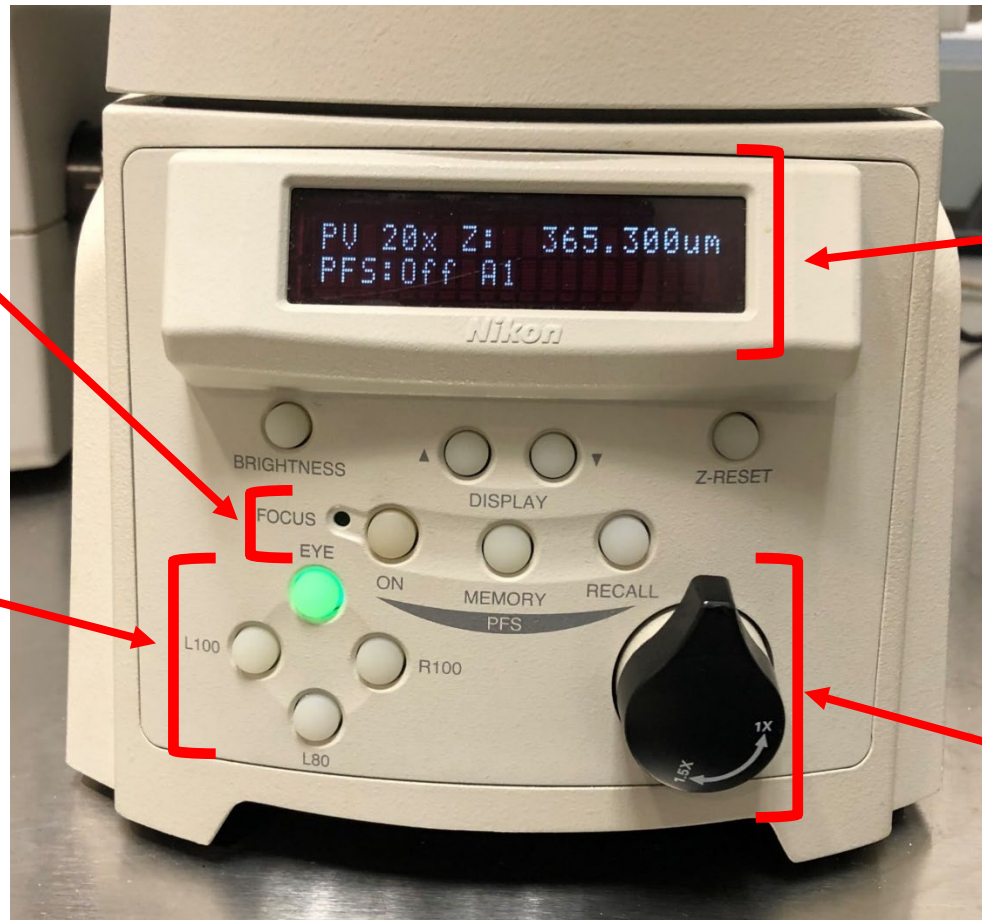


# Layout of the Ti-E microscope

## Front operation panel

Perfect Focus System (PFS) controls: ON to set PFS, it will automatically lock when in proper range

Microscope configuration controls:  
EYE: view sample through eyepieces with LED  
L100: use confocal scanner to collect image in software



Front display panel:

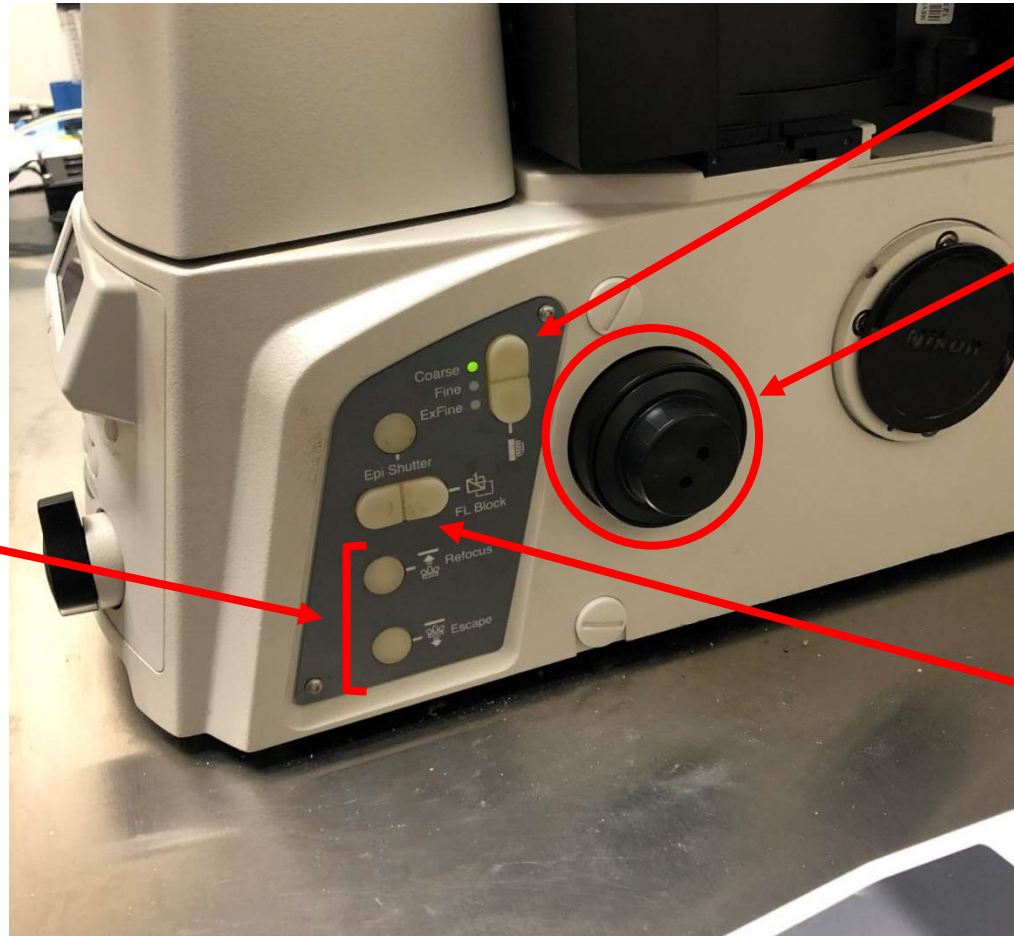
- Objective
- Z position (in microns)
- PFS status
- Filter position: (A1 for confocal imaging, DAPI, FITC, TRITC, D/F/T for triple filter)

Zoom knob should **ALWAYS** be set to 1x facing upward

# Layout of the Ti-E microscope

Right operation panel

**Escape** button drops the current objective to a preset height. **Refocus** button drives the objective back to the original location. BE EXTREMELY CAREFUL if you use these commands not to crash the objective into your slide! Remove the slide and make sure the stage is clear before pressing Refocus!



Focus speed selector:  
Coarse (fast)  
Fine (medium)  
Extra-fine (slow)

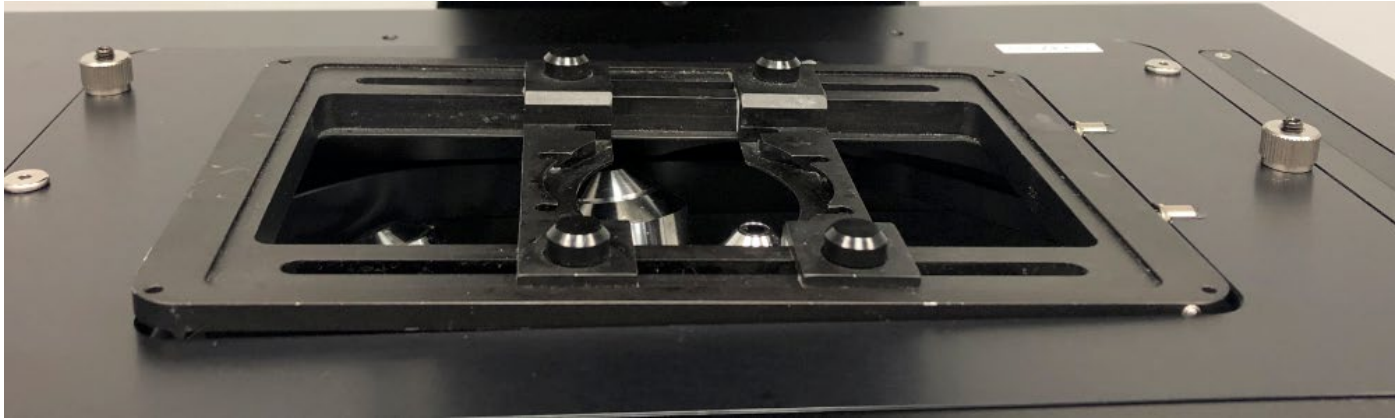
Focus knob

**FL block** button:  
rotate the filter  
turret to select a  
viewing filter to  
view the sample  
with LED  
illumination

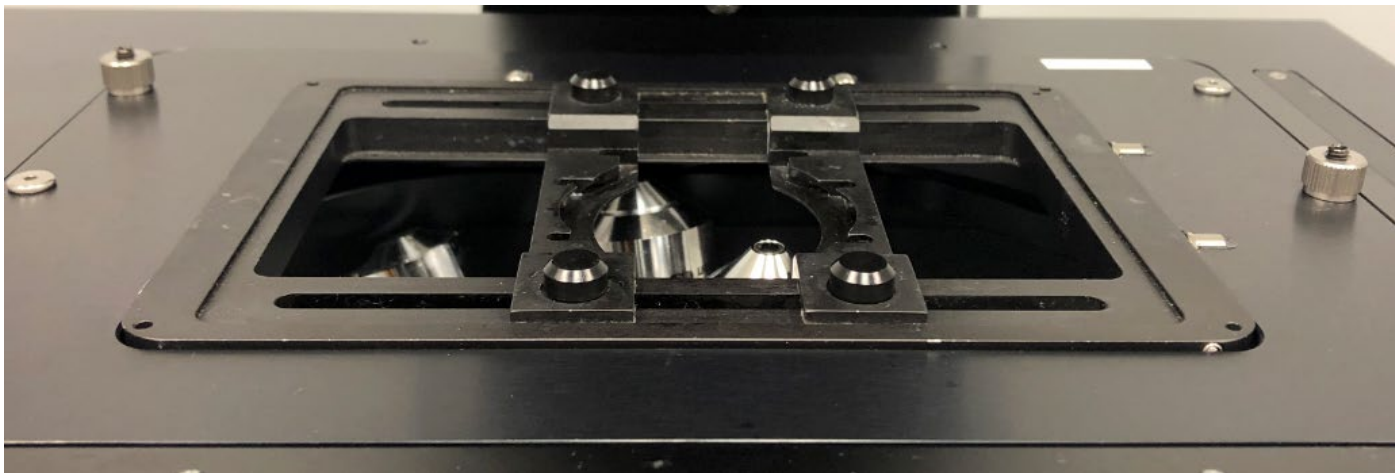
# Layout of the Ti-2 microscope

## Stage sample holder

If the objectives are raised too high, they may press on the sample holder and cause them to pop the stage insert out:

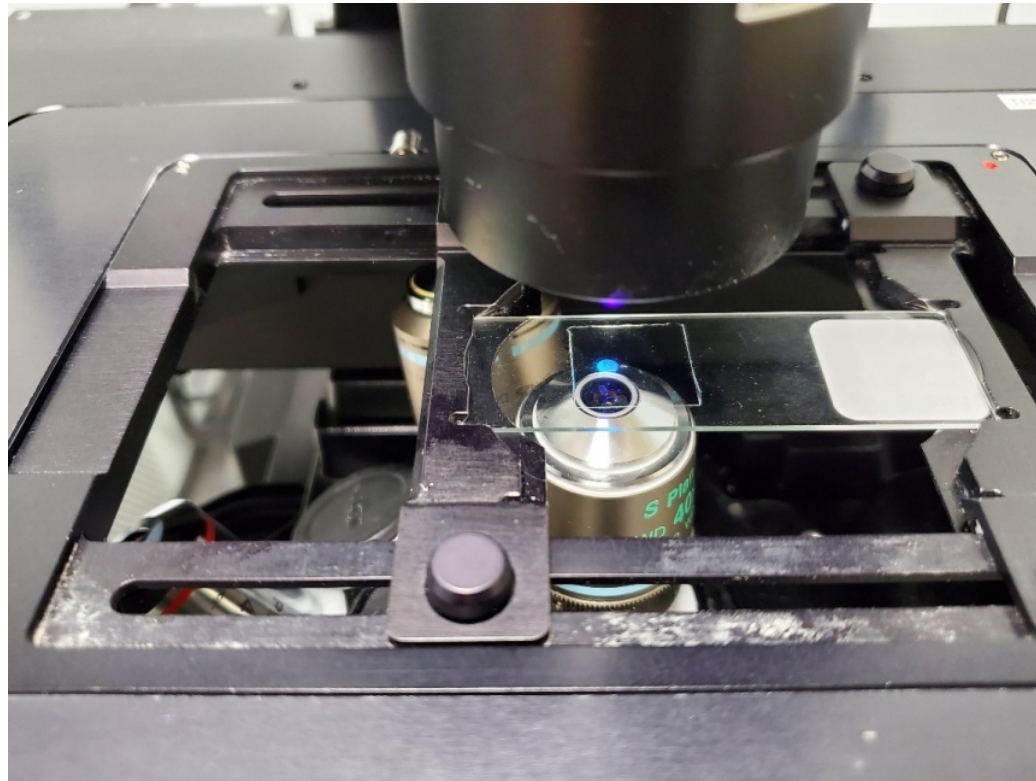


When the stage insert is properly set it will look like this:



# Layout of the Ti-2 microscope

Stage sample holder





# Layout of the Ti-E microscope

Joystick controller

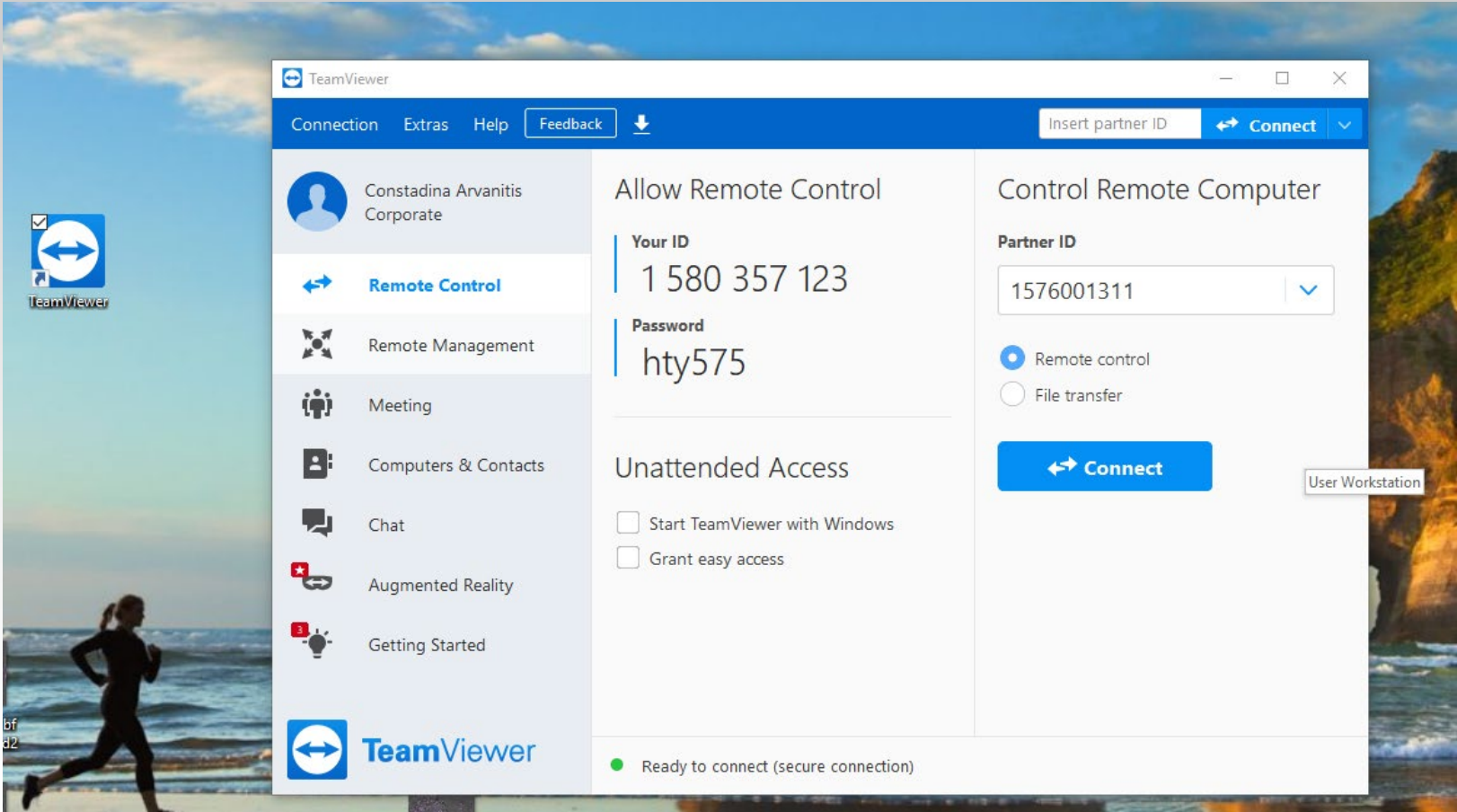


Focus speed selector:  
Coarse (fast)  
Fine (medium)  
Extra-fine (slow)

Focus knob

Twist Joystick to change speed  
Coarse (fast)  
Fine (medium)  
Extra-fine (slow)

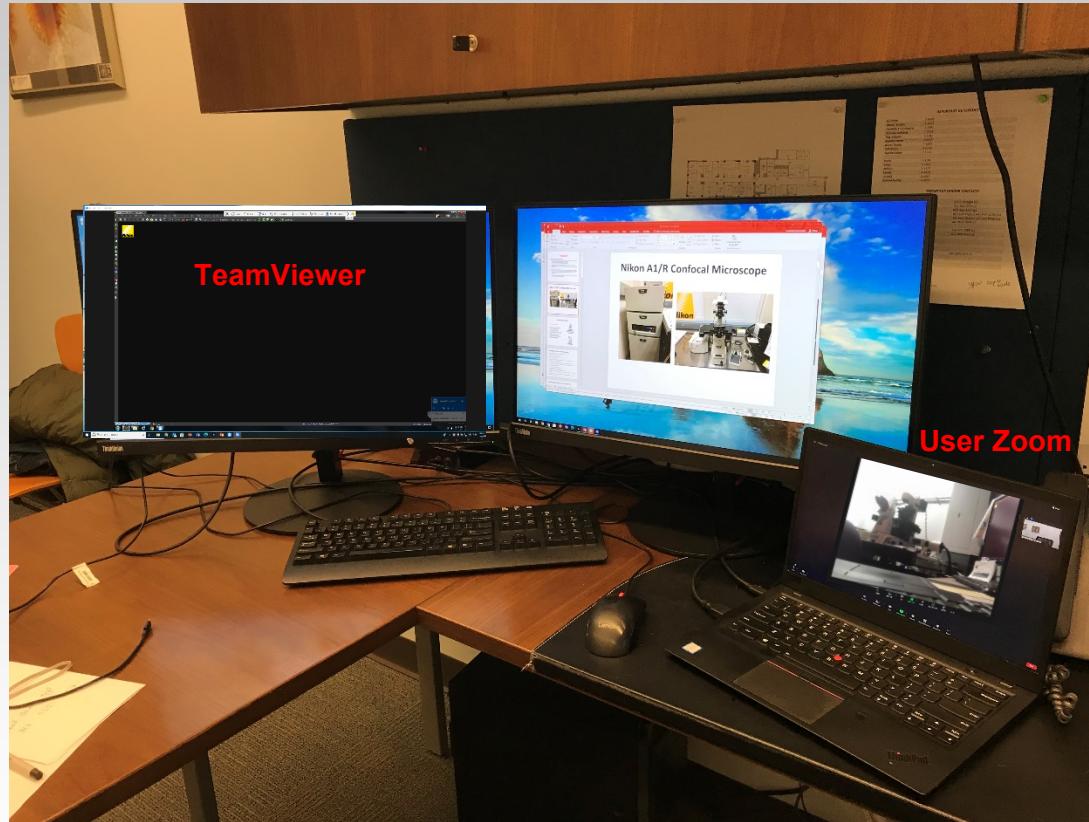
# TeamViewer



# User Workstation



# Staff Setup





# How training is performed

- We take control of software and run the software via TeamViewer
- Gradually turning control over to user
- Sessions are broken into two parts
- Second session we zoom in and have them do it all on their own while we are available and finish up software walkthrough

# What we've learned: Pros

- Users seem to be getting trained better
- Easier to be flexible with training slot time
- User are also getting trained with how to do remote support
- 75% of our instruments can be trained completely contactless/remote

# What we've learned: Cons

- Several iterations of the powerpoint slides
- Sessions are broken into two parts- can get tricky to keep track
- Occasionally you do need to go into the room with some users
- Doesn't work for all systems.....

# **TeamViewer demo**

**Thank you!**