

# The TF20 microscope interfaces

## The microscope console

**Location** : right in front of you on the desk (screen on the left)

**Role:** TEM User Interface provides direct control of some of the most important microscope parts:

- Magnification
- Electron dose: spot size (C1 lens) and beam spread (C2 lens)
- Focus (objective lens current)
- Stage position (with the joystick and Z buttons)
- Beam position (with the trackball)
- and many other actions through the programmable switches (L/R1-2-3) and Multifunction X/Y knobs.

\* [For more details see:](#)

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## Gatan DigitalMicrograph User Interface (DM)

**Location:** On the left screen

**Role:** It controls the K2 direct electron detector.

- The beginner user will not use it.
  - [The expert user will use it to:](#)
    - prepare Dark, linear and counting / Super Resolution gain references.
    - measure the dose.
    - monitor the K2 health status.
    - troubleshoot the system.
    - perform cryo-cycle of the detector
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## SerialEM User Interface (SEM)

**Location:** On the left screen

**Role:** It provides camera/microscope commands to allow the user to screen its grids and setup an automated data collection.

- [The beginner user will use it to:](#)
  - record the Atlases.
  - select squares and prepare the square maps at eucentric height.
  - select targets (holes).

- screen targets (holes).
  
  - **The expert user will use it to:**
    - perform all the actions described above.
    - perform beam corrections (astigmatism, coma-free).
    - perform calibrations.
    - setup the dose rate, total dose and dose fractionning.
    - setup the time and imaging modes for the different beam modes.
    - center the different beam modes all together on the camera axis.
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## The TEM User Interface (TEM)

**Location:** On the middle screen

**Role:** It controls all the microscope systems.

- **The beginner user will use it to:**
    - dock/undock the cassette from the NanoCab to the autoloader.
    - load/unload the grids in the column.
    - change and center the Condenser 2 and objective apertures.
    - control the autoloader turbo pump.
    - perform beam-shift adjustments.
    - manually set eucentric height.
  
  - **The expert user will use it to:**
    - perform all the actions described above.
    - align the microscope.
    - troubleshoot the system.
    - manage the cold system.
    - perform cryo-cycle of the column/autoloader.
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## The FluCam User Interface (FC)

**Location:** On the right screen

**Role:** It allows the visualization of the electron beam and the sample image.

- **The beginner user will use it to:**
  - center the beams.
  - center Condenser 2 and objective apertures.
  - look for and move to particular features on their grids.
  - manually set eucentric height.

- **The expert user will use it to:**
  - perform all the actions described above.
  - align the microscope.

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