

The TF20 microscope interfaces

The microscope console

Location: right in front of you on the desk

Role: it 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.
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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.

From:

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