

# 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 US10001 Camera.

- During screening, DM will allow acquisition in continuous mode.
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## SerialEM User Interface (SEM)

**Location**: On the right screen screen

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

- **The user will use it to:**
  - record the Atlases.
  - select squares and prepare the square maps at eucentric height.
  - select targets (holes).
  - screen targets (holes).
  - center the different beam modes all together on the camera axis.
- **The expert user will use it to:**
  - perform all the actions described above.
  - perform beam corrections (astigmatism, coma-free).
  - perform calibrations.

## The TEM User Interface (TEM)

**Location:** On left screen

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

- **It is divided into 4 zones:**
  - Zone1.
  - change and center the Condenser 2 and objective apertures.
  - control the turbo pump.
  - perform beam-shift adjustments.
  - manually set eucentric height.
- **The beginner user will use it to:**
  - load/unload the grids in the column.
  - change and center the Condenser 2 and objective apertures.
  - control the 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.
  - perform cryo-cycle of the column.

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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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