

HITACHI SCANNING ELECTRON MICROSCOPE (SEM) SOP

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OPERATION PROCEDURE

1. Log into the tool in your FOM account.
2. Prepare and place your sample on the conductive black carbon tape ensuring the height is lower than the sample bar.
3. Press **Exchange** on the front of the SEM.
4. Wait until the LED switches from **Green** to **Red** and stops blinking.
5. Open the chamber by gently pulling on the chamber door.
6. Place the stage (sample holder) with the sample in the chamber
7. Close the chamber and press **Exchange**.
8. Wait until the Green light turns on (**Ready**).
9. On the computer, click on **Start** to activate the electron beam (gun).
10. The software will automatically focus an image at 100x magnification.
11. Zoom in at a high magnification (typically 2000-4000x) and click **Auto B/C**.
12. Focus on the image using the **Focus** button.
13. Once the image is focused zoom out as desired.
14. Click on **Slow** to initiate a slow scan for image capture.
15. Click on **Save** to save image to drive.
16. Once done with current sample, click **Stop** to stop the electron beam.

IMPORTANT: Wait for 60 seconds at least before pressing **Exchange** after clicking **Stop**. Doing so every time the gun is stopped will allow the SEM filament to last its full lifetime.

17. Remove the stage and close the chamber door, and press **Exchange** to return the SEM chamber to return to vacuum.
18. Logout from the tool in your FOM account.

