USERS GUIDE TO JEOL JSM 840

1. Fill in the log. (Position of time counter: SEM A to the left of the screen, SEM B to the right.) Choose category from the table below.
2. Install the sample in the sample holder: The sample must not be higher that the upper edge of the holder.
3. Fasten the holder to the installing bar, place the sample in the outer chamber and push the red button to evacuate the outer chamber.
4. Set TILT = 000, ROTATION = 000, X= 25mm, Z = 39 (depending on the sample holder).
5. Mount the sample holder to the stage: When the red lamp turn off, open the gate between the inner and outer chamber by turning OPEN 90^{o} counter clockwise and pull it out. Lead the sample to the stage and ensure that the sample is secured. Unloose and pull the bar. Close gate and turn 90^{o} clockwise. Push the red button to release the bar.
6. Choose acceleration voltage and push the ACC. VOLTAGE button to start the microscope
7. Choose PROBE CURRENT $1 * 10^{-9}$ A. (Look at the display under the screen to see the value of the probe current)
8. Turn on the secondary detector (SEI-OFF-REF, above the acc.voltage-button) to SEI.
9. Choose SEI on IMAGE SELECTOR (to the right of the screen).
10. Turn the magnification all the way down.
11. Turn up the brightness and contrast of the screen (to the left of the screen). **Always remember to turn down the brightness and contrast of the screen when the microscope scanning is in external control, ie. using the Oxford or HKL software.**
12. Choose LSP in SCAN MODE and TV (or SR) in SCANSPEED so you can see a line (the LSP-line) representing the brightness and contrast of the SEI-detector on the screen.
13. Adjust the SE IMAGE brightness so that the LSP-line is not minimised and turn up the contrast to maximum.
14. Filament emission: ”Move the filament stopper and turn FILAMENT slowly until you’ve reached the second intensity peak of the LSP –line. (If necessary, adjust the contrast and brightness of SEI to keep the LSP-line inside the view of the screen.) If you do not see an increase in the LSP-line intensity after turning up the filament to 12 o’clock position, then turn the filament slowly back and check your settings. The filament emission should be set just below the second intensity peak.
15. Choose PIC in SCAN MODE.
16. Choose your working distance (Z), and focus the sample first at low magnification, then at higher magnification.
17. To finish: Set SEI to OFF. Turn the filament slowly to zero. Turn off ACC. Voltage.
18. Set tilt, rot. Z and X as in pt. 4. Take out the sample in the manner as described in pt. 5.
19. Turn down the brightness and contrast of the screen.
20. Set the magnification to 300 000x and SCAN SPEED to SLOW 1.
21. Fill out the log.

Category	Explanation	Price pr. hour JSM 840
A	Ph.D. med avtalt pris	0
B	Ph.D.	200
C	Studenter (prosjekt og diplom) IMT	0
D	NTNU internt/andre	200
E	Post doc.	300
F	SINTEF	-
G	Industriprosjekt	-
H	Internt labarbeid (service etc.)	0

Main Switch, Panel Setting: