

**Problems?** Do not attempt to fix them by yourself, find or call Misha or Mike. Vacuum coater is very expensive, as well as downtime. If you need to deviate substantially from the existing protocols, consult with Misha or Michael first.

Turn on the coater; vent the chamber. The belljar is large; it takes time to vent it.

#### Making carbon film

1. Put rubber gloves on
2. In most cases electron gun is used as carbon source; it is usually ready to go.
3. Clean enough space on the bench for the belljar. Open the belljar, put it on the bench. Load grids or mica on the rotating table, close the belljar, check if it sits properly against the base and push “pump” button. Check that pumping started and there is no hissing sound indicating leak; go back to “vent” to reseal the belljar.
4. Wait until Penning gauge is turned on and vacuum improves to at least  $6 \times 10^{-4}$  Torr.
5. Start table rotation
6. Start electron gun; adjust HT and the filament current until you see random sparks coming out from the gun. Do not exceed the filament current above that value.
7. Wait until desired film thickness is achieved; turn off the gun power.
8. Vent the belljar; open it and put it on the bench
9. Take out mica or coated grids; replace the belljar and pump it.
10. Push “shutdown” button and turn the power to the unit off.