## **Operation of Leica Sputter Coater**

On the Main page, press the "Vent" button, open the chamber door once the pressure has reached atmosphere (8.6 E+0 mbar). Insert your sample onto the stage, close the chamber door and press the "Pump" button.

| Leica EM ACE  | 600                    |                  |                               |
|---|------------------------|------------------|-------------------------------|
| Pressure:<br>4.4E-7 mbar<br>Pump<br>Standby<br>Vent | Sputtering             | Carbon<br>thread | Sequence                      |
|   | Open 🕥<br>Menu 🗐 Light | Open ③           | Open ③<br>13:28<br>2019-09-25 |

Press the "Open" button in the Sequence window. The "Sequence" window will open to select the desired application.

| Leica EM AC   | E600   |
|---|--|
| Pressure:<br>8.9E-6 mbar<br>Pump<br>Standby<br>Vent | Sequence Iridium 3nm No  Prepare Vacuum A-Iridium No T Sputter |
| Main 🏠  | Menu  Light  Start  14:05 2019-09-25                           |

Press the sequence method button (in this description it is the "Iridium 3nm No.." button). You will now see all the possible methods. Select your desired application.

| Pressure:<br>8.8E-7 mbar | equences:        |        |
|--------------------------|------------------|--------|
| Pump                     | Carbon No Tilt   |        |
| Standby                  | CarbonTilt       | 1 More |
| Ven                      | Iridium 3nm No T |        |
|                          | Iridium 3nm-Tilt |        |
|                          |                  |        |

There are 2 methods for Carbon (with tilt and no tilt) and 2 methods for Iridium(with tilt and no tilt).

| LEICA EM AC              | E600                                       |   |
|--------------------------|--|---|
| Pressure:<br>8.9E-6 mbar | Sequence Iridium 3nm No                    | - |
| Standby<br>Vent          | Prepare<br>A-Iridium No T                  |   |
|                          | Sputter.                                   |   |
| Main 🏠                   | Menu 🗐 Light 👾 Start 🕨 14:05<br>2019-09-25 |   |

Press the "Start" button to begin the method.

The screen will display the progress of the method.

| Leica EM AC  | E600   |
|--|--|
| Pressure:<br>8.3E-3 mbar<br>Vent after<br>sequence | Iridium 3nm No (1) Wait for control-speed<br>(73320rpm)              |
| Full speed   | Prepare<br>ridium No Tilt<br>ridium No Tilt<br>Sputter               |
| x  | Status: Idle Rate: n/a<br>Time slapsed: 01:05 (01:01) Thickness: n/a |
| Main 4   | Menu Light 2019-09-25  |

When completed, the "Result" window will display the finished details. Press the "Init" button to reset the stage and then press the "Close" button.

| Iridium 3nr            | n No Tilt -       | Result     |              |         |
|------------------------|-------------------|------------|--------------|---------|
| Status:<br>Total time: | Finished 00:03:33 |            | Pump:        | Pumping |
| A-Iridium N            | o Tilt            | Finished - | 209s - 4.5nm |         |
|                        |                   |            |              |         |
|                        |                   |            |              |         |
| Log file:              | Export            | Stage:     | Init         | Close X |

Select the "Main" button to go to the Main page. There you can select the vent button. Vent the chamber and remove your sample.

Clean the inside window with a Kimtech wipe and Alcohol to remove residue. Close chamber door and pump back down. Wait till the vacuum reaches the -3 mbar range and then log out of the system. Fill out written log book.

## **Emergency Information:**

Medical Emergencies: Contact 911 and Public Safety (609) 258-1000 Room / facility emergencies: Contact Public Safety (609) 258-1000 Issues related to the instrument:

- 1. Contact IAC Staff.
- 2. Leave system as is, Do Not disable vacuum system.
- 3. Try to shut off the High Tension/Close Vacuum valve.

Audible/Siren Emergency Alerts:

Follow previous steps 2 & 3 and leave the building.

## **Emergency Contact Information:**

Nan Yao: Office (609)258-6394; Cell (908) 922-2236 Email: <u>nyao@princeton.edu</u> John Schreiber: Office (609)258-0034; Cell (215) 431-4670 Email: <u>is51@princeton.edu</u> Paul Shao: Office (609)258-3851; Cell (847) 721-086 Email: <u>pshao@princeton.edu</u>