Operating Instructions Oxford 100 Series PECVD

- Log in to the gas panel and select the machine and gas you want to use
- Log in to the software of the PECVD
- To load the sample, click on **Stop** and then **Vent** on the load-lock menu
- Wait for about two minute and open the loadlock lid by lifting it up
- Load your sample in such a way that the flat of the wafer is in between the two mounting screws. The position of the mounting screws can be changed to accommodate wafer from 8" to 3". For 2" and small pieces, use the recessed 4" Si wafer
- Close the loadlock lid
- Click on **Stop** and then **Evacuate** to pump the loadlock
- Click on **Process** button on the top menu of the software and select **Recipe**
- Select Automatic button on the top-left side
- Click on **Load** button in the middle to load the recipe
- Select the recipe you want to load and click ok
- You can now run or edit the recipe
- Left click on the step you want to edit and select **Edit**
- You can change the temperature, time, pressure, power, gas, flow rates etc. After suitable changes, click **Ok** to exit the edit mode
- Click on **Run** to start the process
- Once the process is finished, the sample will automatically transfer to the loadlock.
- Unload the sample and put new one

- This machine has Low Frequency (LF) power that can be used to deposit stress free Silicon Nitride films. You can either use LF power with RF power or with alternating pulses of LF and RF power. For alternating pulses, keep the total pulse time to about 20s and change the LF and RF time. The tuning network for LF is manual and the reflected power is minimized using the knob at the bottom of the machine, next to LF power panel. Please don't rotate the knob with LF power on. Rule of thumb, for low LF power, the knob should be set at higher value and opposite for high LF power. If you want to tune at the middle of the process, click on **Pause** button at the top, then rotate the knob and click on **Play** button

- To change the temperature, click on **Process** button in top menu, then **Chamber**, and in the temperature text box, input the temperature you want to use. Set time to about 1 minute (doesn't matter), click on **Start** and then immediately on **Stop.** The temperature will start to change. Wait until it is stabilized before you start your process.