1. Log into iLab and begin your time. There is a separate iLab SOP beside the unit.

2. Turn on the Argon gas by turning the main gas valve counter-clockwise (Figure 1A). Open the valve slowly and turn it all the way open.

3. Open the small valve for the GOLD sputter coater (Figure 1B), be sure the other small valve is closed. Be sure the other small valve for “Ag or Pt/Pd” is closed. These small valves are open when the handle is parallel to the piping. Set the Argon delivery pressure to 20 psi (Figure 1C) by adjusting the gas regulator valve (Figure 1D). The gas regulator is a diaphragm valve, so turning the valve clockwise increases the pressure.

4. Turn on the cooling water at the sink by turning the cold water on very low (1/4 turn). There should be a slow trickle of water coming out of the hose in the sink.

5. Place sample in the chamber and align it under the target. Use the proper sample holders for the gold sputter coater. When placing the sample, look at the target to be sure that it is not tilted and the edge of the disk is not touching anything.
6. Turn on the sputter coater by pressing the POWER button (Figure 3A).

7. Turn on the pump by pressing the PUMP button (Figure 3B). After a few seconds, the INTERLOCK light should come on.

8. After the pressure drops to at least 0.1 mbar (green line in Figure 3C), press the START button (Figure 3D).
   
a. At this point, the timer (Figure 3E) starts to count up to 480 seconds, but the actual sputtering starts after step 10. You should keep your own sputtering time starting after step 10.

9. Wait 10-15 seconds – pressure should equilibrate at 0.3 to 0.4 mbar (blue line in Figure 3C).

10. After the pressure comes to equilibrium around 0.3 mbar, turn on the High Tension by pressing the H.T. button (Figure 3F).

11. Slowly turn up the VOLTAGE (Figure 3G) all the way up to 10. Start tracking your sputter time.
   
a. When you turn up the voltage, you should see the voltage and amperage meters (Figure 3H) register values, and you should see a purple glow inside the sample chamber. If neither of these things happens, there is a short in the system and you should contact the lab coordinator.

12. Sputter for 1-2 minutes, then slowly turn down the VOLTAGE to 0, and then turn off the High Tension by pressing the H.T. button.

13. Vent the chamber by pressing the VENT button.


15. Turn off the sputter coater by pressing the POWER button and collet your sample.

16. Make sure the chamber is sealed when finished to prevent contamination.