



# OXFORD ICP PlasmaLab 80+

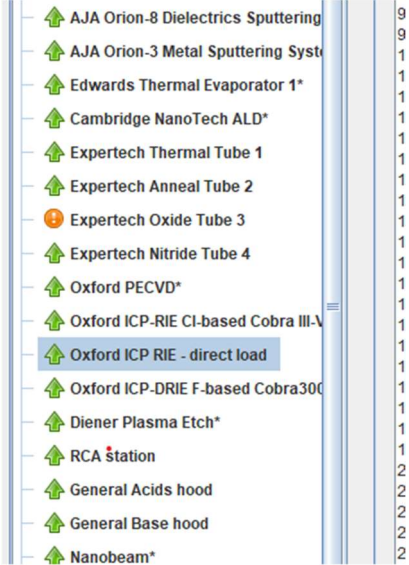
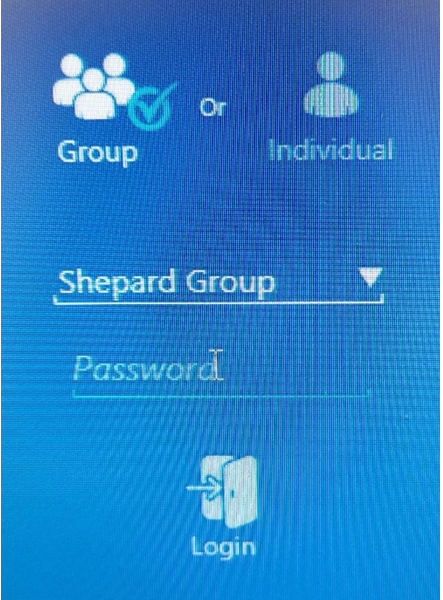


These instructions are intended for reference only, and will *not* replace the thorough training required for proper system operation. The procedure is written for operating the tool in **automatic mode**. Contact a clean room staff member with questions or to report a system problem.

Written by: James Vichiconti





<p><b>1. Enable the tool in <b>BADGER</b></b></p>	<p>Enable the tool in <b>BADGER</b></p>	 <table border="1"><thead><tr><th>Tool Name</th><th>Count</th></tr></thead><tbody><tr><td>AJA Orion-8 Dielectrics Sputtering</td><td>9</td></tr><tr><td>AJA Orion-3 Metal Sputtering System</td><td>1</td></tr><tr><td>Edwards Thermal Evaporator 1*</td><td>1</td></tr><tr><td>Cambridge NanoTech ALD*</td><td>1</td></tr><tr><td>Expertech Thermal Tube 1</td><td>1</td></tr><tr><td>Expertech Anneal Tube 2</td><td>1</td></tr><tr><td>Expertech Oxide Tube 3</td><td>1</td></tr><tr><td>Expertech Nitride Tube 4</td><td>1</td></tr><tr><td>Oxford PECVD*</td><td>1</td></tr><tr><td>Oxford ICP-RIE Cl-based Cobra III-V</td><td>1</td></tr><tr><td><b>Oxford ICP RIE - direct load</b></td><td>1</td></tr><tr><td>Oxford ICP-DRIE F-based Cobra300</td><td>1</td></tr><tr><td>Diener Plasma Etch*</td><td>1</td></tr><tr><td>RCA Station</td><td>1</td></tr><tr><td>General Acids hood</td><td>2</td></tr><tr><td>General Base hood</td><td>2</td></tr><tr><td>Nanobeam*</td><td>2</td></tr></tbody></table>	Tool Name	Count	AJA Orion-8 Dielectrics Sputtering	9	AJA Orion-3 Metal Sputtering System	1	Edwards Thermal Evaporator 1*	1	Cambridge NanoTech ALD*	1	Expertech Thermal Tube 1	1	Expertech Anneal Tube 2	1	Expertech Oxide Tube 3	1	Expertech Nitride Tube 4	1	Oxford PECVD*	1	Oxford ICP-RIE Cl-based Cobra III-V	1	<b>Oxford ICP RIE - direct load</b>	1	Oxford ICP-DRIE F-based Cobra300	1	Diener Plasma Etch*	1	RCA Station	1	General Acids hood	2	General Base hood	2	Nanobeam*	2
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<p><b>2. Log in</b></p>	<p>Use group ID and password to log in to the interface</p>																																					

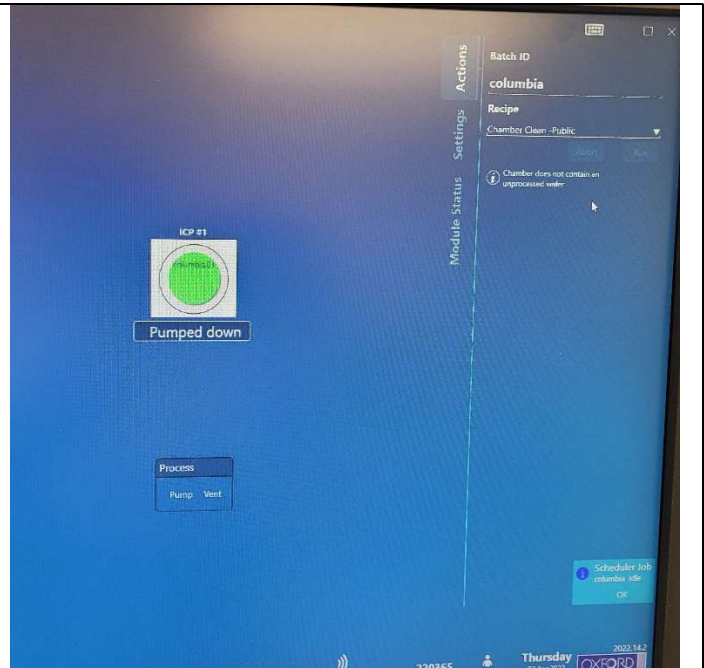




**3. VERIFY SYSTEM STATUS**

The system should be left 'pumped down' and clean (Chamber Clean recipe) to maintain chamber integrity. Please note the green wafer which indicates the 'Chamber Clean' process has been completed.

If the wafer is not 'green' and the Chamber Clean recipe is not indicated, please report the condition in Badger and run a chamber clean prior to process you samples.



**4. VENT THE SYSTEM**

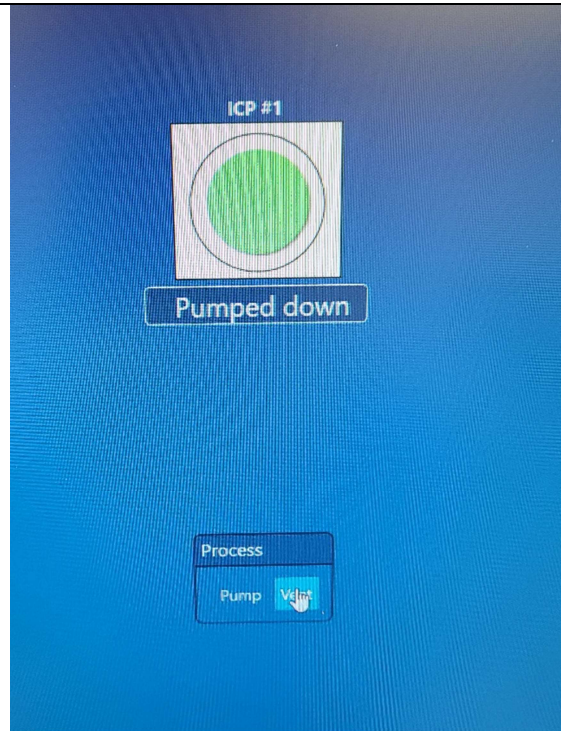
On the 'Automatic' page click 'vent'.

The vent process takes several minutes, because it initiates system pump down and a nitrogen purge cycle before the chamber is brought to atmospheric pressure, to assure that potentially hazardous





gases have been cleared from the chamber.



**5. INSTALL SAMPLE**

When the chamber is fully vented, open the chamber using the pneumatic controls.

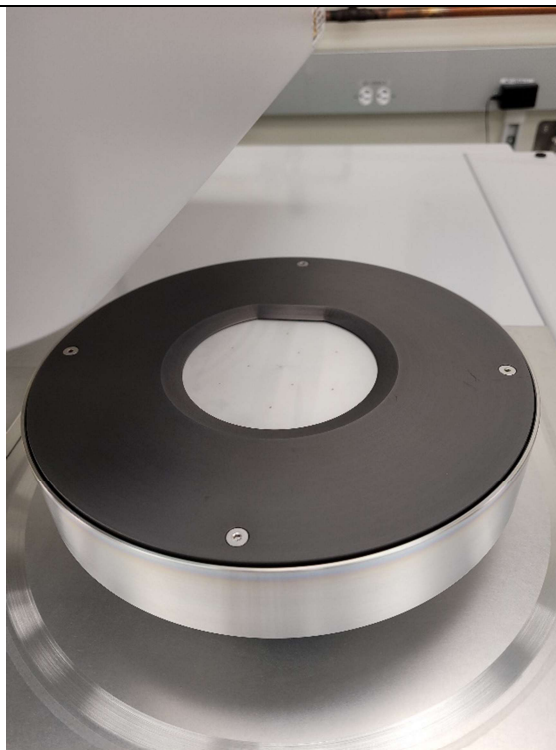
For samples that require thermal conductivity with the base plate, coat the backside of the sample with a thin film of Fomblin oil or Cool Grease, taking care to cover the entire surface.

Place your sample at the center of the chamber's base plate.





Close the chamber lid using  
the pneumatic controls.





<p><b>6. Evacuate Chamber</b> Answer “yes” to the “wafer loaded in to the chamber” question. There is a fixed wafer mounted at all times.</p> <p>Under the “Process” header, select “Pump”.</p>	
<p><b>7. DEFINE PROCESS</b> Select your recipe and load. You will need to enter a batch ID as well.</p>	
<p><b>8. RUN PROCESS</b> Select ‘Run’ to initiate the process.</p> <p>Note the cream color wafer graphic indicating the wafer has not been processed</p>	





<p><b>9.</b> Note the magenta wafer graphic and 'lock' icon indicating the wafer is processing.</p>	
<p><b>10. VENT THE SYSTEM</b> The wafer will turn 'Green' indicating the process has been completed. Then click 'vent'.</p>	
<p><b>11. RETRIEVE SAMPLE</b> When the chamber is fully vented, open the chamber using the pneumatic controls and take out your sample. Clean any heat transfer media from the carrier</p>	





	<p>wafer using a clean room wipe and DI water. Dry the platen. As a reminder IPA use outside of the litho hoods is not allowed (it triggers the gas sensors).</p>	
<p>12.</p>	<p><b>RETURN TO NORMAL</b> Leave the tool as you found it by closing the lid using the pneumatic controls and initiating the vacuum cycle.  Run a post process chamber clean.</p>	
<p>13.</p>	<p><b>BADGER LOGOUT:</b> Don't forget to disable the tool in badger after you're done.</p>	

