



August 11, 2023

Hello Nanofab Users and PIs:

Many tool updates this week -- please read the following newsletter completely.

PI Meeting

Save the date! There will be a meeting for all Principal Investigators on August 29th at 1:00PM. A Zoom invite will be sent out. This meeting will be for general discussion and update of what is happening in the Nanofab Facility, and a forum to discuss any concerns or suggestions. We hope to see you there.

Oxford RIE-80 Etcher

The tool is down. The RF generator replacement did not fix the tool, and we are awaiting an update from Oxford on what the next steps will be.

Oxford ICP-Fluorine Etcher

The tool is (finally!) online and available for use. If you are interested in doing BOSCH etching on this tool please notify Jane Vogel so we can add this to the schedule. Until we have requests for Bosch mode we will keep the tool in standard ICP mode.

Oxford PECVD

The tool is operational for all recipes using the HF power only. However, there is high reflected power when using any recipes using the LF power generator. The generator and transformer are on order from Oxford. If depositing Nitrides, it would be good to do a calibration growth as the film stress could be affected.

EVG Mask Aligner

The EVG Engineer was in last week and repaired the WEC leveling system, allowing for uniform exposure across the wafer. Additionally the scaling for the lamp intensity was adjusted properly. Be aware that the exposure doses will now be much closer to specs when using “dose” exposure settings. This changes the old settings by a factor of 6. (ie: a previous dose of 50 mJ/Cm² would now need to be set to 300mJ/cm²). It would be best to do an exposure dose array when using the tool again.

Elionix 100keV EBL

The gun was replaced (for a second time) which has resolved the issue of the beam instability. The tool is back online.

AJA Organic Evaporator

The organic evaporator is down. Replacement of the e-beam gun did not fix the tool. We are currently troubleshooting the E-Beam gun electronics. Updates will be posted in Slack.

AJA Metal Evaporator

Tooling factors are updated on the metal e-beam evaporator for Ti, Cr, SiO₂, and Au. This means that the deposition rates and thickness values should be much more accurate. Please be aware of this change when evaporating these materials.

Congratulations to these users!

Congratulations to Anton Vakulenko, Svetlana Kiriushchikina, Daria Smirnova, Sriram Guddala, Filipp Komissarenko, Andrea Alù, Monica Allen, Jeffery Allen & Alexander B. Khanikaev on the publication of “Adiabatic topological photonic interfaces” in Nature Communications. [Check out the paper here.](#)

Job Opportunity at the ASRC Nanofab

We have an open position in the ASRC Nanofab as a Cleanroom Engineer/Scientist. Find the [job listing online here](#). This is an opportunity to join a fantastic team at the ASRC. If you know of qualified and interested individuals please pass this link on.

Acknowledgements

Please remember to acknowledge the ASRC nanofabrication facility in your publication and let us know about exciting and new publications that utilize devices made in the facility.

This concludes the ASRC Nanofab updates for August 11th. Stay cool and hydrated this weekend!

Nanofab Staff