NANOFABRICATION FACILITY

ADVANCED SCIENCE RESEARCH CENTER

September 11, 2023

Hello Nanofab Users and PIs:

Here are the ASRC Nanofabrication Facility updates for this week:

Undergraduate Intern at the Nanofab!

Welcome to Abigail Berkowitz, the ASRC nanofab's new undergraduate intern! Abigail is a current CCNY mechanical Engineering student who has extensive experience in participating in extracurricular research. She will be developing process recipes for SU8 epoxy and PDMS microfluidic molds and devices. Thank you to the ASRC SensorCAT for funding Abigail in this venture! Please say hi if you are in the lab on Mondays and Wednesdays.

Elionix Workshop Videos Available

The Zoom videos of the ASRC workshop with Lukas Stampfer PhD from Elionix can be found at the Dropbox link here. This 2-day 3 hour program delves into using both WecaS and Beamer for Elionix CAD conversion.

Oxford RIE-80 Etcher

Oxford engineers have not yet been able to properly diagnose the issues preventing the RIE from striking plasmas. An Oxford engineer is expected to be back on-site sometime this week to continue working on the issue.

FEI SEM

The SEM will be down Wednesday afternoon through Thursday morning while staff use its chiller to troubleshoot another tool.

Oxford PECVD

The PECVD has been down periodically the last few weeks in order to clean and replace cooling water lines within the tool. Those efforts have helped to reduce the reflected power when using the LF generator to manageable levels, but some recipes still have higher than normal reflected power, though the forward powering is compensating correctly. We're still working to get the reflected power to the lowest levels for all recipes, but users shouldn't have any issues that impact the quality of deposited films. If users do have any issues, inform staff immediately.

Rapid Thermal Annealer (RTA)

The RTA will be taken off-line later this week for maintenance. Staff will attempt to fix the cooling water issue that's been causing error after a few minutes of heating. Updates will be provided on Slack.

Oxford ICP-Fluorine Etcher

The ICP-Fl will be in Bosch DRIE mode for Tuesday's for this semester. The tool will currently be switched over for cleaning and conditioning starting at 8AM, and will will switched Back by 6PM. Time for Bosch must be scheduled with both Jane (jvogel@gc.cuny.edu) and Salam (selhalabi@gc.cuny.edu) 1 week in advance. If more users schedule Bosch etching we will extend this dedicated time into Wednesday.

Organic Evaporator

The tool is still available for low current recipes, however, the issue remains where intermittently the high voltage will shut down at high currents. If this happened while you are using the tool simply reset the Genius monitor and you can continue. Meanwhile we are continuing to work with AJA to find the issue, and the metal evaporator is available.

Hood usage

Just a reminder that users need to disable their slots in Badger for the hoods when they're done using them. Usage rates for the hoods have gone into effect, so users will be charged for the time they have those slots enabled.

Procedures to Bring Chemicals to the Facility

Users who need chemicals that are not supplied by the Nanofabrication Facility must first get the approval of staff before bringing those chemicals to the cleanroom. If it is the first time the user is bringing a specific chemical, they must first submit the New Materials Request Form and email a copy of the MSDS to skilpatrick@gc.cuny.edu. Once the requested chemical is approved, the chemical may be brought to the ASRC via one of the following options:

- Option 1: Have the chemical shipped directly from the supplier to the ASRC with “Attn: Jane Vogel” in the first line of the address. Do not have chemicals shipped to the ASRC without first getting approval from staff. Once the chemical is ordered, staff must be notified of the expected arrival date. When the chemical arrives, staff will label it with the name of the user or the user’s group and store it in the appropriate chemical cabinet.
- Option 2: Schedule a time to hand-off the chemicals to cleanroom staff at the ASRC loading dock. Do not attempt to enter the building through the loading dock, even if the loading dock is open at the time. Staff will meet you at the appointed time, and then take the chemical directly to the cleanroom.

Do not bring chemicals into the ASRC through the main entrance as chemicals cannot be brought to the ground floor via the passenger elevators or the main stairway. When users are resupplying a chemical for which they already received approval, they do not need to submit another New Materials Request Form and MSDS, but they still need to email staff to get approval to bring the chemical to the cleanroom.

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 September 11th. Have a great week!

Nanofab Staff