NANOFABRICATION FACILITY

ADVANCED SCIENCE RESEARCH CENTER

May 12, 2023

Hello Nanofab Users and PIs:

Here are the ASRC Nanofab lab updates for this week:

Elionix Workshop: June 6th - June 7th

Mark your calendars! June 6th and June 7th, we will be visited by Lukas Stampfer Ph.D., an Application Engineer from STS-Elionix. Some of you may already know Lukas, as he helps us debug and solve issues on our two tools, and is an expert on helping with CAD preparation that minimizes write issues. He will be available to work with ASRC users to solve issues that you may have, and to talk with you about optimizing your designs and writing of your devices.

We will schedule some sessions that will be accessible at ASRC and Zoom, as well as learn techniques directly at the tools. The following is a list of potential topics.

1. Basic CAD and File prep with WECAS
2. Advanced file prep with Beamer (Available at Columbia CNI)
    a. Multipass
    b. Feature Sorting
    c. Circles and Parallelograms
    d. Field Placements
3. Optimizing writing time
4. Setting up global and local alignments
5. Manual and Automatic heightmaps
6. Exposing on substrates with bad reflectivity
7. Beamer tricks of all kinds

Please email nanofab@gc.cuny.edu with any other topic suggestions. We will update here in the next newsletter and on Slack as we finalize the schedule.

100keV Elionix - Gun Change Scheduled

The 100keV Elionix will be down for a routine gun change from June 13th through June 23rd. Please plan your work accordingly.

Oxford ICP-Fluorine - Down for Repair

The ICP-Fl tool remains down. There are two issues: The first is the failure of the RF generator, which is no longer supported. Therefore the generator must be replaced by a different model which requires re-engineering of the tool. This could be completed by the end of this month. The second issue is a relay which is evidently unavailable due to a supply chain issue. Getting this relay does not have a resolution date at this time, but we are in contact with Oxford continuously, and will continue to keep you posted on any updates.

AJA Metal Evaporator

We are continuing our work to improve the operation of the AJA metal evaporator:

- We recently replaced the viewing window and the shutter, as they were coated by metal. **Please remember: It is important to close the shutter to protect the window when the e-beam is on.** The shutter should only be open to check on the alignment of the beam and then shut again.
- We have deleted many of the automated recipes as the only manual recipes should be run at this time.

Reminder on operation of the evaporator: The only manual operation should be the opening and shutting of the substrate shutter, as well as the control of the power. The Ebeam controller should always be operated in automatic mode and the beam position should only be moved by staff. If you have any issues or concerns, we are happy to go over proper operation with you.

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. Have a great weekend!

Nanofab Staff