Dear cleanroom user,

This is the 20th edition of **Kavli Nanolab News**. In this issue you can find news on plans, new procedures and investments.

Renewal of gowning area

Together with TNO we are working on the reconstruction of the cleanroom entrance area. Most relevant changes for you as a user will be: more hooks for the coveralls, a lower 2nd bench for easier boot dress-up, and placement of a safe water tap.

Mandatory logbooks

As from 1 Jan 2019 it will be mandatory to fill in the equipment logbooks for the most important processing tools. Additional PCs have been installed and are hooked up to an U drive for a central logbook folder. All cleanroom users will be informed in due time.

Scribing/breaking

We moved all scribing and breaking activities from the measuring room (P.00.520) to a dedicated exhausted cabinet in TU-09 (P.00.320).

III-V protocol

For working with III-V semiconductors we have a special protocol in order to avoid cross-contamination. If you work with these materials you should return the signed III-V protocol which can be found in annex 8 of the "Kavli Nanolab safety and behaviour rules".

Maintenance week VLL

The facility maintenance week will be in week 50. This means that the cleanroom will be closed for users from 10-12-2018 07:00 till 14-12-2018 17:00.

Winter holiday period

Between 22-12-2018 – 02-12-2019 08:00 the cleanroom will be open but the weekend regime will apply, i.e. only low and medium risk processing is allowed.

Equipment News

UHV evaporator

The acquisition of a new UHV e-gun evaporator is in the phase of public tendering. The machine must take over a substantial load from the heavily used Temescal evaporator and must be capable to fabricate Al Josephson junctions. It will be a 3 chamber system with load-lock, evaporation and oxidation chamber.

Sample cleaner for SEM

In order to avoid carbon contamination on your sample during SEM imaging a table top specimen cleaner will be installed soon. It utilizes vacuum-controlled UV irradiation and activated oxygen to gently and rapidly "clean" the specimen surface prior to imaging without the use of any chemicals, gases, or reagents.
Please ask Hozan Miro for more information

ProSEM

ProSEM from GeniSys makes automated feature size (CD) measurements from your saved SEM images, with a user interface designed for simplicity and productivity. It is now available on a limited set of computers.
 Please ask Anja van Langen, Arnold van Run or Hozan Miro for more information
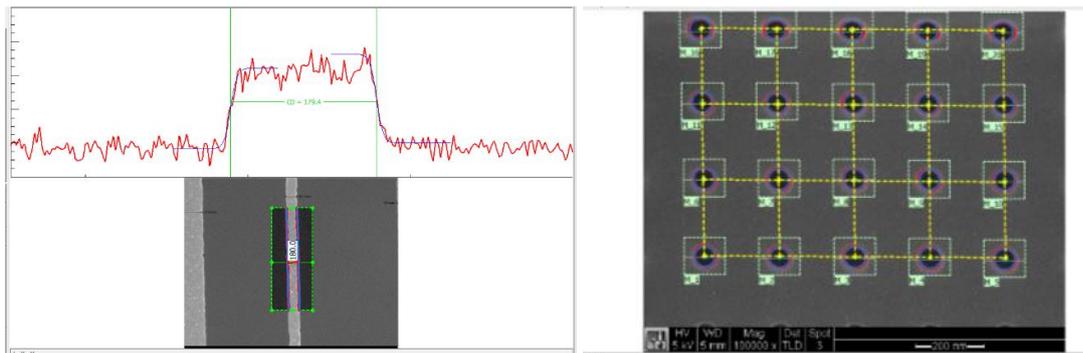

Extra HR-SEM

Our 2 SEMS are heavily used and we plan to expand the capacity with an additional tool with preferably the same user interface as one of the existing tools.

Replacement of Fluorine RIE etchers

The two Leybold Fluorine Reactive Ion Etchers ("F1" and "F2") are outdated and replacement of parts becomes critical. We plan to replace the tools by new tools with similar functionality, i.e. open load, fit with mfc's for C-F and S-F RIE processes, large electrode, no back-side cooling and no ICP.

New EBPG software

The latest BEAMS EBPG control software versions have been installed on both EBPG's. Now it is also possible to define alignment markers and set marker search parameters within the "cjob" writing software which is supplied with BEAMS. Spots can be defocussed faster and more accurate using fine focus (FF) rather than the final lens at the cost of height compensation range. Image marker search, where you grab a SEM image, or have a reference pattern, and use it as marker template for aligned writing now works without hanging up the control computer, and can partly replace manual marker search.
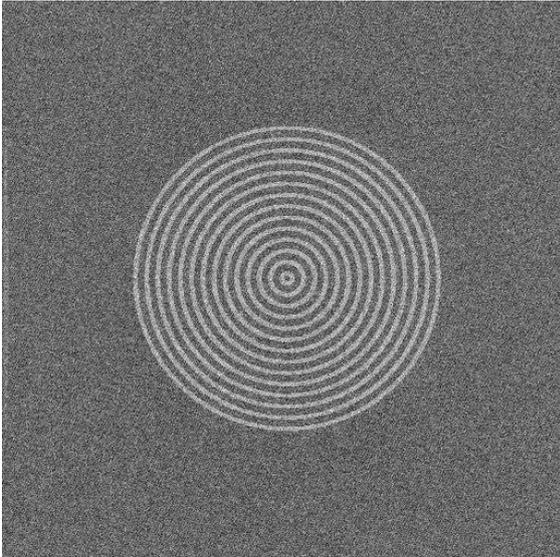
Example of a scanned SEM-image as reference for image marker search.

Also UPG pattern generator-specific features like spiral fill-in of trapezia that should diminish edge roughness, and new basic shapes generated circles and rotated rectangles, that save pattern data size, are available, and under further development by Raith.