

The logo features a large, stylized 'KN' inside a purple hexagon, followed by the word 'NEWS' in a large, grey, sans-serif font.

Dear cleanroom user,

This is the 21th edition of **Kavli Nanolab News**. In this issue you can find news on plans, new procedures and investments.

Mandatory logbooks

As from 1 July 2019 it will be mandatory to fill in the equipment logbooks for the most important processing tools. For the two e-beam machines the set-up is still pending. Additional PCs have been installed, labelled and are connected to the U drive for a central logbook folder. Please be strict in filling the required data sheets. As of September 1st not complying to this rule will be sanctioned with a yellow card.

New shower

A new safety shower (both full-body and eye shower) is installed in the main corridor. The shower will have warm water and will have an enclosure in case people feel reluctant to undress.

Particle Counter

A very easy-to-use particle counter is available in the measuring room on the VC block (P.00.520). It detects particles with size range $> 5 \mu\text{m}$. It only works on non-structured wafers and it will preliminary be used for checking the cleanliness of our processing tools.

For more information please ask Pauline Stevic

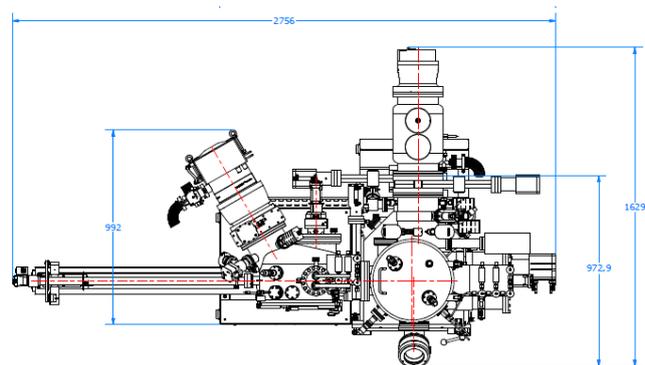


UHV evaporator

A new UHV e-gun evaporator is ordered from Plassys and installation is expected in November 2019. The MEB 5000 S2 III UHV machine must take over a substantial load from the heavily used Temescal evaporator and is capable of fabrication of Al Josephson junctions.

The system has a 3 vacuum chambers: (1) load-lock, (2) evaporation and (3) oxidation chamber. The system is able to load 100mm wafers as well as piece parts. The load lock includes cleaning options by an Ar ion beam source or by ozone generated by a UV lamp. The UHV evaporation chamber has an additional LN2 tap and is equipped with 6x 15cc Telemark sources with self-sealing covers in order to avoid cross-contamination. The UHV oxidation chamber is connected to the evaporation chamber with gate valve opened during deposition and gate valve closed during oxidation. Oxidation modes include high pressure static oxidation and UV-lamp ozone assisted oxidation. The substrate chuck can be LN2 cooled and has motorized substrate rotation (e.g. for dual angle shadow mask deposition for making junctions) or/and substrate spinning (for improving thin film uniformity).

For more information please ask Marco van der Krogt.



Upgrade Alliance Concept Metal-2

The Alliance Concept Metal-2 sputtering machine will be, to make it compatible to AC Metal-1, upgraded with a DC power supply. This will result in higher sputtering rates and will enable co-sputtering. The installation of the upgrade is planned in August.

Extra HR-SEM

Our 2 SEMS are heavily used and we plan to expand the capacity with an additional high-resolution imaging tool with preferably the same user interface as one of the existing tools. We are in the phase of consulting the market.

New Fluorine RIE etcher

We purchased a Sentech Etchlab 200 RIE etcher. The system will be equipped with 6 gas lines similar as for Leybold F1 and F2. Initially the system will be used etching of SiO_2 and Si_3N_4 with CF_4 and CHF_3 etching gases. A laser interferometer is fully integrated in the system.

For more information please ask Charles de Boer.



Extra Tepla etcher

We plan to install an additional PVA/Tepla Giga Batch 310M microwave etcher in September. Its location will be next to the existing system. The system will be hooked-up to Ar and O_2 gases. For easy loading the door is equipped with a sliding loading arm which hopefully reduces breakage of the quartz substrate carriers.

For more information please ask Marc Zuiddam.

