CAMD Cleanroom Users Policy

Statement of Work:
A cleanroom environment for processing and metrology is required for precision and reproducibility in Microfabrication. Rules and regulations have been devised to ensure safety, high yield, and reliable operation for users and the facility.

I. Equipment Use

- Equipment training is conducted by the designated equipment manager or appointed Cleanroom Staff.
- All equipment malfunctions must be immediately reported to Shaloma Malveaux, smalvea@lsu.edu Please detail the problem as much as possible.
- Users are issued a login ID and password for use of the Booking and Login systems after all training aspects are completed.
- Users are only allowed to reserve and login equipment for which he/she has been trained and authorized to use.
- All equipment bookings should be made minimum 24 hours in advance. Cancel reservations immediately if you discover you will no longer need equipment.
- If you are not working you may not be inside the Cleanroom.
- Users can request training for "Special Training" equipment depending on project need. Refer to the Equipment Use Policy for more details. The staff member in charge will discuss project needs and verify if machine is necessary for your project. Access updates will be made after training is complete.

II. Chemical Use

- Proper Personal Protective Equipment (PPE) corresponding to the chemical(s) being used are required. Refer to the glove list located inside the gowing area and the chemical’s MSDS for appropriate PPE. At minimum, safety glasses must be worn in the vicinity of a chemical fume hood at all times.
- Prepare all hazardous materials for proper disposal, as discussed and demonstrated in training. Chemical or hazardous materials are never poured down drains nor disposed in garbage cans.
- All chemical manipulations must be contained within a fume hood. Liquid resist use is restricted to areas under a chemical hood or within range of spinner ventilation. Full-face shields must be used when spin coating.
• Chemicals required for use inside the CAMD facility that are not listed on the **CAMD Chemical List** must be approved before use in the Cleanroom. The chemical must correspond to an existing project with an active project reference number (PRN). The users must also provide a current MSDS sheet from the chemical supplier database. Send MSDS document to Shaloma Malveaux, smalvea@lsu.edu.

• Use of acids requires special training; forward request for acid use to smalvea@lsu.edu. Acids are stored in a designated cabinet and are not accessible prior to acid station training. This training is required if any recipes, etching solutions or any other chemical process involves the use of an acid.

• No powdered substances are allowed inside the cleanroom. The hood located behind the cleanroom may conditionally be available for mixing or measuring of powdered substances. Check with Shaloma Malveaux, smalvea@lsu.edu for details.

• Chemicals such as: solvents, developers, etchants, acids and standard Shipley Resist may be used as general use. These chemicals are part of CAMD Cleanroom inventory. All other resist, strippers, developers, etc. that are not listed will need to be purchased by your department.

• Chemicals in use must be covered with glass lids and clearly marked with (1) Chemical Name, (2) User Name, and (3) Date if you should leave the cleanroom but plan to return when process is completed. Please use Sharpie Markers to label as these have good adhesion to glass.

• Chemical processes should not be left under the hoods for longer than 48 hours. Special circumstances may be considered for longer processing times. The items in question must be contained properly, labeled correctly and notice sent via e-mail to Shaloma Malveaux, smalvea@lsu.edu; otherwise, items are considered abandoned and will be discarded after two days.

### III. MISCELLANEOUS

• Each User must use his/her own access card to enter the Cleanroom. Users are not allowed inside the Cleanroom using another person's access privileges.

• The cleanroom is available for use from 7am-4:30pm weekdays. Any use after 4:30 pm (weekdays) must be approved by Microfab Staff to assure that someone will be at CAMD after hours. If there is a need for chemical use after 4:30pm, there must be a trained cleanroom user as the second person while you are working in the cleanroom. See **2-person Rule**. *This rule is only valid if CAMD staff is present on site and approved use after 4:30 pm. A user is in violation if the pre-listed guidelines are not met.*

• Overnight jobs may be left in the ovens and on hot plates; however, the job must be removed by 4:30pm the next day. If your sample still remains on machines the next day prior to 4:30 pm and someone has made a booking for machine use, your sample will be removed and placed in the clear glass box on top of the scale. Please retrieve your sample in a timely manner to avoid others handling your sample.
• Users must present a minimum of (6) log-in sessions of equipment use within (6) months after training in order to be considered an active user.
• Users that do not use the cleanroom at minimum, access will be de-activated and retraining is required to continue active status.
• Experienced or current users that do not present a minimum of (6) log-in sessions in a (12) month period, will also be deactivated from the system and will need to be re-trained to continue active status.
• Cleanroom users must send a request for a cleanroom visitor to Craig Stevens evstev@lsu.edu. Any one not cleanroom trained by cleanroom staff is considered a “visitor”. Visitors to the cleanroom must be signed in the CAMD visitors’ log and must be escorted by cleanroom staff.
• Only CAMD staff are authorized to train and sign training documents for cleanroom users. Authorized users may login machines listed in their profile for their experimental use, not for other users. If a user needs to add additional machines, or require “Special Use Equipment” the user must contact CAMD staff for assistance. (see Equipment Use Policy for machine listings)

IV. SANCTIONING

Users who violate a Cleanroom rule or regulation as communicated in this document, cleanroom training, or machine operation procedures will be ticketed.
• Three tickets result in a minimum (1) month suspension. Retraining is required for re-entry into the cleanroom.
• Subsequent offenses may produce more extreme consequences, at the discretion of the Microfabrication Director
• Specific offenses which are subject to an automatic one-month suspension include the following:
  • Improper or unauthorized use of acids
  • Unauthorized chemicals inside the cleanroom
  • Unauthorized equipment use
  • Unauthorized cleanroom entry or facilitation of unauthorized personnel into cleanroom
  • Equipment login/logout for other Users
  • Violation of protocol in regards to the Two-Person Rule