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. Staff members are assigned designated machines in which users can request additional training or training review. The training schedule will be posted on the microfab calendar. See Equipment Use Policy for persons in charge of specific machines.
- All equipment malfunctions must be immediately reported to Shaloma Malveaux, smalvea@lsu.edu and copied to the designated staff member in charge of that machine. Please detail the problem as much as possible.
- Users are issued a log-in ID and password for use of the Booking and Log-In systems after all training aspects are completed.
- Users are only allowed to reserve and log-in 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 gowning 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 by the Safety Director, Dr. Lorraine Day, before use inside the Experimental Hall and 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.
- 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 the Cleanroom Staff for details.

• **Resists priced above $300/qt are not provided by CAM D.** Chemicals such as: solvents, developers, etchants, acids etc. may be used as general use as well as designated resist purchased for general use. (See Cleanroom Chemical list for details).

• Chemicals in use must be covered with glass lids and clearly marked with (1) Chemical Name, (2) User Name, and (3) Date.

• 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.

• Wash lab ware, dry and place back on the shelves, and completely clean work areas immediately after use.

### 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.

• A visitor may be allowed inside the Cleanroom only when accompanied by an authorized staff member or user who has Clean room access. The authorized user must instruct the visitor on protocol and continuously accompany the visitor while in the cleanroom. This visitor is **ONLY** allowed for observation purposes. External/campus users please contact Shaloma Malveaux, smalvea@lsu.edu to request access for a visitor. Bring only items relevant to your research when you come to the Lab and remove the items when completed.

• The cleanroom is available for use between 7am -10pm weekdays. Users without After-Hours access must exit the cleanroom before 10pm workdays. Access hours will also be determined conditionally in reference to the beamline schedule. (see website) The caretaker will run the beams during the evening and must be contacted (578-9328) during your time in the cleanroom and upon your exit. Users should listen carefully for announcements as the ring can be shutdown earlier than 10pm if no beam is scheduled for use.

• All machines, except heaters and PG, will be automatically logged out at 9:45 pm for those users without Cleanroom After-Hours (CR-AH) access.

• It is the users responsibility to ensure there is a willing and available second person when working inside the Cleanroom after 5pm weekdays during chemical processing and all times during After-Hours. See the website for more details on the **Two Person Rule** and the **CR-AH Policy**.

• Talk radios are provided to persons outside of personal communication range in order to comply with the Two Person Rule after 5pm pending no chemical processing.

• Overnight jobs may be left on the ovens, hot plates, and PG. However, the job must be removed before 9am the following morning. If the following morning is a weekend or staff holiday, remove next regular operating day by 9am.

• With authorization from the Microfabrication Director, the cleanroom may be accessed After-Hours, which are from 10pm – 7am on weekdays and all hours on weekends and LSU Staff Holidays. See the website for the (CR-AH) request form and CR-AH Policy. Forward request to smalvea@lsu.edu. Limited number of users will be granted after-hours access and experienced user will be preferred.

• During After-hours, inform control room personnel of each entrance and departure to the cleanroom by calling (578-9328).

• Users must present a minimum of (24) hours of use within in the next six months after new user training. 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 work in a respective year (12 month) period will also be deactivated from the system and will need to be re-trained to continue active status.

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 one 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, or the Safety 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
  • Unauthorized equipment training
Statement of Acceptance:
I will adhere to the guidelines provided in this document as an authorized user of the CAMD Cleanroom and understand that failure to comply with any of the regulations can lead to suspension and/or expulsion from the CAMD Cleanroom.

______________________      ___________________       ____________________________    __________
Name (print)                     Department/Supervisor                           Signature       Date

______________________       ______________________                          ________________________
Dr. Richard Kurtz                       Dr. Jost Goettert                                            Dr. Lorraine Day
CAMD Director                     CAMD Microfabrication Director                CAMD Safety Officer

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Date                                        Date                                                                 Date