

PRISM MICROFABRICATION LABORATORY RULES

7/30/2008

Rule #1 – safety

Safety is an overriding rule in all cleanroom activities. All operations must be undertaken with the safety of both the individual user and other users as the primary consideration. Ignorance of the rules, working under “pressure”, lack of common sense, language difficulties, carelessness, and haste are not adequate excuses for unsafe behavior. If you are tired or do not have time to do things correctly and safely, with adequate time for thought, please stay home. Anyone violating any safety rule or otherwise compromising his or her personal safety or the safety of the others will be denied access to the cleanroom.

Rule #2 – peer pressure

Your safety in the cleanroom is determined not only by your actions, but by the actions of those around you. Point out rule violations or unsafe behavior immediately to the offenders, as well as later to the cleanroom management. Inappropriate reactions by individuals to such corrections should also be reported. The access of everyone to the cleanroom depends on maintaining a safe working environment. A series of thoughtless chemical violations or a single serious personal injury could result in severe restriction on the cleanroom use or closing of the cleanroom.

Rule #3 – courtesy

The cleanroom is a workplace for over 100 users. The users are not allowed to change common recipes, leave vacuum chambers vented, process unusual samples in equipment restricted to a particular sample type, or leave the equipment in a state unfamiliar to the others. All unattended chemical bottles, beakers, etc., must be labeled or otherwise warn other users of their contents. Users are required to clean up any work area (counters, equipment, floors) they have been using. This may mean cleaning up areas that have been dirtied by others. Users are expected to report immediately any problem with the equipment to the cleanroom management and note it in the logbook.

Cleanroom Usage

- The cleanroom will be entered and exited by the showers – using his/her OWN proximity card.
 - o One and only one user will enter the cleanroom shower at a time.
 - o Everyone must wear a badge and take the whole 15-second air shower.
 - o No other entrance/door is to be used unless in an emergency situation.
- Users will wear a full cleanroom suit. This will include a hood, tucked into a cleanroom suit, with boots.
- Appropriate eye protection will be worn. The minimum acceptable will be safety glasses. Splash goggles will be worn when working at any hood.
- Suits and hoods will be replaced every seven days of use, or if dirty or torn.
- Boots will not be stored in lockers.
- Undergraduate students can only work during regular business hours Monday through Friday, 9:00 am to 5:00 pm. In addition, during the fall and spring semesters they are allowed to work if monitors are present (typically Monday through Thursday, 5 pm to 10 pm and Saturday, 1 pm to 6 pm)
- Other users can use the facility 24/7 based on restrictions in following sections.

Equipment Usage

- Only authorized personnel are allowed to use the cleanroom equipment unsupervised.
- To become an authorized user you must be trained by a superuser, and given authorization by Mikhail Gaevski, Joseph Palmer, Conrad Silvestre or Pat (George) Watson.
- No user will be held responsible for accidental equipment damage if he/she notifies PRISM staff of such damage in a timely manner.
- Whenever a piece of equipment is used, the logbook will be filled out, without exception.

Equipment Reservation

- Authorized users must reserve equipment that they plan on using for longer than 15 minutes (<http://poe-nostromo/>)
- Equipment reservation is limited to 3 consecutive hours of time on most machines. The following exceptions apply: PlasmaTherm 790 PECVD - 5 hours (suggested from 8am-1pm and 1-6pm), Thermco furnaces - 24 hours, Tystar tube #1 (oxidation) - 24 hours, Tystar tubes #2, 3, & 4 - 12 hours, AJA dielectric sputterer - 10 hours, and Angstrom sputterer - 10 hours.
- Any user who has reserved equipment and who does not show up within 15 minutes of the reserved time can be “bumped” from his/her reservation.

Outside User Equipment Reservation

- Non-academic cleanroom users can only reserve equipment Monday through Friday.
- On those days, the following limits are placed on the amount of time reserved (in total) by all non-Princeton entities:
 - o 9:00 am to 5:00 pm a maximum of 3 hours total
 - o 5:00 pm to 11:00 pm a maximum of 2 hours total
 - o 11:00 pm to 9:00 am – no time limit
- Extensions will be granted on a case-by-case basis, as some equipment will by necessity take longer than 5 hours to use.

Restricted Equipment & Use of Lab

- All equipment can be used by authorized personnel during normal business hours, Monday through Friday, 9:00 am to 5:00 pm. Otherwise the following restrictions apply:

Monitor or Buddy present in the room	Monitor or Buddy checking on the user every 30 minutes	No Monitor or Buddy required
<ul style="list-style-type: none">• All solvent and acid hoods in Plasmatherm 790 and Box Room	<ul style="list-style-type: none">• Plasmatherm 790• Plasmatherm SLR• Astex ECR etcher• All Tystar CVD furnaces• Hoods in the lithography room• Hoods in the Metals Room	All other equipment

Monitor Requirements and Duties

- Monitor must be located in the cleanroom at the time of duty.
- Monitor's name and the time of duty must be displayed on the entry doors to the cleanroom.
- Monitor must check all users in all cleanroom areas every 30 minutes and fill out a "Monitor sheet".
- Monitor must be present in the room, if any user is working in any solvent or acid hood, other than the hoods located in the photolithography room.

Buddy Requirements and Duties

- Buddy must be a registered cleanroom user and be located in the E-Quad at the time of duty.
- He/she must check up on the user every 30 minutes.
- If the user is working in any solvent or acid hood, other than the hoods located in the photolithography room, the Buddy must be present in the room.

Additional User Duties

- Interested users may serve as monitors, superusers, or cleanroom committee members. The remaining users are obligated to spend 1 day a year helping out in the cleanroom, namely during the quarterly cleanings.

Guests

- All guests must be cleared by the PRISM Lab Staff before entering the cleanroom.
- No guests are allowed to process or use equipment.
- Guests are admitted to the cleanroom for the purposes of a tour only.

BREAKING THE RULES

First Offence: Removal of cleanroom privileges for two weeks.

Second Offence: Removal of cleanroom privileges for two months.

Third Offence: Permanent removal of cleanroom privileges.

The above are MINIMUM penalties. For grievous violation of the rules, more severe penalties will be inflicted.