GENERAL INFORMATION

Clean room (CR) facility phone number: 934 031 303

Contact information concerning CR facilities:

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Please note, the inability to adhere to the following general safety regulations and materials handling protocols will result in a suspension of access to the CR.

Please inquire with an aforementioned staff member if you have any questions regarding the current established protocols.

CR GOWNING Procedures

CR operations require the CR users to change from street clothes to 100% polyester building suits to reduce the amount of particle contamination in the CR environment.

Gowning procedures begin at home with daily bathing/showering, shaving, brushing of teeth and hair, and application of non-silicone containing skin moisturizers to reduce skin flakes.

All make-up, perfumes, aromatic after-shave lotions, or body lotions are not CR-compatible and therefore unacceptable to wear to work.

BASIC PROTOCOL

Records of entering/leaving must be kept.

Donning Sequence

1. Walk through the pressurized, interlocked air hall and close doors to protect the integrity of the CR from cross-contamination
2. Enter gowning area.
3. Don coverall.
4. Sit on the bench and put on shoe-covers.
5. Put on bouffant. Assure all hair is covered by bouffant.
6. Put on set of gloves.
7. Walk over tacky mat to remove excess contaminants from walking.
8. Do not unnecessarily touch the floor or walls.

Doffing

Reverse the above procedure. Place disposable items in trash. Place reusable coverall, hood, and boots in proper receptacle. Exit gowning area.

PLEASE NOTE, **In cases of emergency evacuation, personnel are instructed to immediately leave the CR without doffing CR garments.**

Working in the CR

In order to work in the CR, future users must first be staff-trained. Once the persons have completed the training, they can then sign up to become users and their information will be entered into the room database. A lock-code will be provided to allow them to enter into the CR space.

Only those individuals who have gone through the proper training will be allowed in the facilities. This means that those who are not properly trained **should not** be allowed in the area. **At no time (unless with permission from a staff member)** should you allow an unauthorized user (visitors) into the CR.

This means that if a staff member observes a user violating an existing CR safety policy, they have the ability to bring charges against this user

Please note that additional measures may be taken over time to allow for the efficient and safe use of the CR. Such measures will be announced to the user community.

PERSONAL BEHAVIOR

Personnel should be capable of working comfortably and efficiently inside the CR. Please refer mental characteristics such as claustrophobia to staff members.

Training personnel for working in the CR environment is mandatory for all personnel regardless of frequency of entry and job classification.

In order to ensure the integrity of the CR environment:

- **Smoking is not allowed**

- Any activity by the CR operator generates millions of viable and non-viable particles. Therefore, it is imperative to limit talking and actions in the CR to only those required for the manufacturing of the product. **Running is not permitted**.

- **Avoid** mannerisms such as **scratching head or rubbing hands.**

- Nothing is allowed inside the CR complex which is not required in the CR manufacturing process. This includes personal items such as **jewelry or keys, cosmetics, tobacco, food or drink in any form.**

- Only CR compatible ball-point pens are allowed inside the CR for recording data on CR compatible paper.

- The use of **facial tissues is prohibited** in the CR. If there are any changes such as skin irritations, open sores, or respiratory infections, the personnel should NOT enter the CR.

- Prior to introduction of any supplies into the CR areas, proper wipe down of the exterior packaging should be performed.

CR Materials Handling Protocol

Bringing Materials into the CR

A staff member must first approve materials (other than the allowed stock chemicals) before they are brought into the CR. Upon approval, the user will produce a label to place on the chemical container. This code is used to identify the chemical, the owner of the container, the date it was brought into the facility, and the location in which it is to be stored.

PLEASE NOTE, **once a stock bottle is brought into the CR area, IT MUST REMAIN in the clean area**.

Stock Chemicals

Solvents
Developers
Resist Strippers
Acids
Bases

When a bottle of stock chemical in the CR area has been completely used, the empty bottle must be rinsed **3** times and then placed in the YELLOW bin next to the wash and scan them out of the inventory system.

Staff members will restock the stock chemical supplies in the area.

Allowed Materials

The merging of a nanobiotechnology facility with a standard semiconductor fabrication facility is a very novel concept. As such, in order for researchers in this field to continue to create new systems and develop novel fabrication techniques, they are allowed to take advantage of the combination of conventional semiconductor fabrication tools with unconventional materials.

These operating conditions will allow for ‘unconventional’ materials to be brought into the CR. Such materials include but are not limited to:

Antibodies
Fixed cells
DNA/RNA
Polymers
Proteins
Etc.

Please note that we **will** allow materials dissolved in biological buffers to be used in this space. All machines and surfaces **must be properly cleaned** after using biological buffer solutions.

Materials Storage

As mentioned above in the section concerning **Bringing Materials into the CR** all materials must be properly labeled with an identifying barcode and stored in the appropriate cabinet. Please note that these materials should not be stored anywhere. **If they are found outside the CR space they will be confiscated.** In an effort to keep these materials from leaving/entering the facilities, we will have storage shelving and storage containers available for individual users.

Equipment / Hand Tools

All tweezers and other hand tools that are used to process the 'unconventional' materials listed in the **Allowed Materials** section should be kept in the storage containers mentioned above and not used in areas outside the CR.

CR Tools	**OWNER**
AJA Sputtering	J. Bertomeu
Chemical Vapor Deposition CVD	J. Bertomeu
UNILAB Glovebox	E. Bertran
VEECO AFM/MFM microscope	A. Fraile
VEECO metal evaporator	E. Bertran
Homemade Plasma Enhanced CVD	E. Bertran
3D printer Formlabs Form3^{+}	A. Hernandez
Microscopio Optika B-350	Clean Room
Ultrasonic bath	Clean Room
Photolitografy equipament	Clean Room
Spinner	Clean Room
Horno Digitheat	Clean Room
High Vacuum Coating System Classic 500	Clean Room
UV/Ozone Cleaner	Clean Room

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