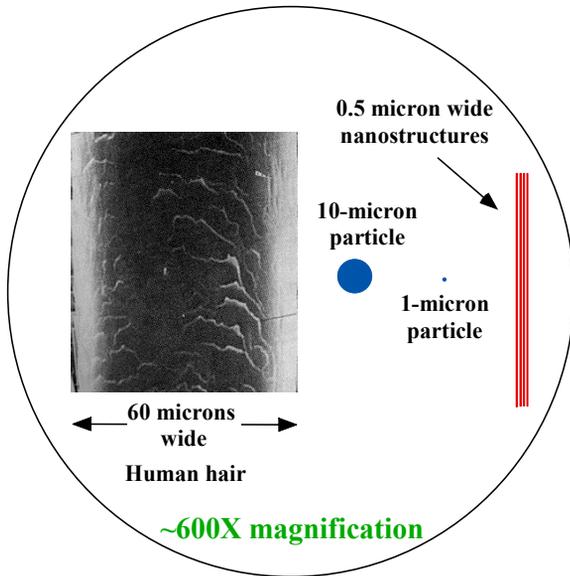


(7) Gowning and Clean Rooms



Relative size of clean room contaminants



A lab user “gowning-up” in SNF



Much of the support equipment and facilities for the clean room is located in the very large basement area beneath you

As we mentioned on the Wafer Cleaning poster, very small particles and impurities can cause the structures and devices produced in this facility to fail. **Major sources of particles, dust, and impurities are people’s bodies and clothes.** To reduce this contamination, users in the facility are required to wear gowns or “bunny suits.” A strict procedure is followed to enter the facility through the gowning room and put on the bunny suit.

The facility is called a “clean room” due to the cleanliness required and the many systems and procedures employed to keep it that way. Huge fans above the room are used to blow clean air over the people, equipment, and wafers in the lab. They recirculate the entire air volume of the clean room every 8 seconds, and air filters clean the air each pass. The cleanliness of a clean room is designated by its “class.” This is the number of total particles greater than 0.5 micrometers or “microns” (which equals 500 nanometers) per cubic foot. This facility is rated at Class 100, meaning that there are fewer than 100 particles of size 0.5 microns or larger per cubic foot, which is much cleaner than the air in a hospital operating room.

This 10,500 square foot clean room is vibration-isolated from the rest of the building in order to allow lithography and other critical processes to occur at maximum resolution. Support equipment such as chilled water, vacuum pumps, and acid waste neutralizers are located in the basement. Corrosive and toxic gases are in a monitored gas area. Liquid gas storage tanks, emergency power generators, and a de-ionized water plant are outdoors.