

Fabrication Techniques for Mems-based Sensors: Clinical Perspective
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Lecture – 35
GLP: Gowning Procedure for using Lab

Today we begin a series of modulus, where we will introduce you to the different devices and lab setup that needs to be taken care of for microfabrication area and for a lab that works in the microgabrication field, I am Anil, I am a TA for this course. Let me introduce, you to another TA for this course Mister Seetharam. So, I have already gowned myself. So, first thing in any lab is to have good lab practices or glp.

So before, you enter lab you should be full gowned and the governing procedure, we will introduce you now, Seetharam is right now not fully gowned because, we wanted to show you, how exactly the gowning process is carried out. Now, I will run you through the exact process and Seetharam will show you, what is to be done? First is this is a very clean lab and the clean room environment has been maintained.

So before you enter the lab, you have to wear shoe covers on your shoe.

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So, these shoe covers would be would be worn on top of your shoe and you have to enter the lab using a shoes only and not sandals or anything. This is done for your own safety,

because you will be handling lots of chemicals and other hazardous substances in the lab and in case this spill from your hand and fall on your feet, your feet should be protected and the shoe covers are worn. So that, the dust under your shoes, do not enter the lab and contaminate the environment.

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Next the lab coat, lab coat is the fundamental attire in any lab working environment. So, Seetharam has already worn the lab coat and coming. Next, he will wear the remaining components of the attire that have to be worn; next is nitrile gloves. So, we have kept the items required to be gowned aside.

So now, Seetharam will go and wear the gloves.

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So, these are the nitrile gloves, they are specially made. So, that they are least corrosive; today different wide range of chemicals that may be used in the lab. So, this is again primarily designed for your own safety and precaution. So, that you can work peacefully in a lab environment without worrying about getting any diseases or getting damaged your body. Another thing see, if you see while he is wearing it, he is making sure that the cuffs of his lab coat and the gloves are interlocked and none no part of his body is exposed to the outside environment. This is the correct procedure of wearing gloves.

So, you have to because a gloves is made of a rubber material, it is elastic and it becomes tight. So, you have to pull your gloves and wear it over your cover. The cuffs of your gown or your lap coat. So, that it is that area will be fully sealed from outside environment. So, sometimes the gloves sizes or the lab coat sizes might not match at that time, you can even pull the cuffs also on top of your gloves.

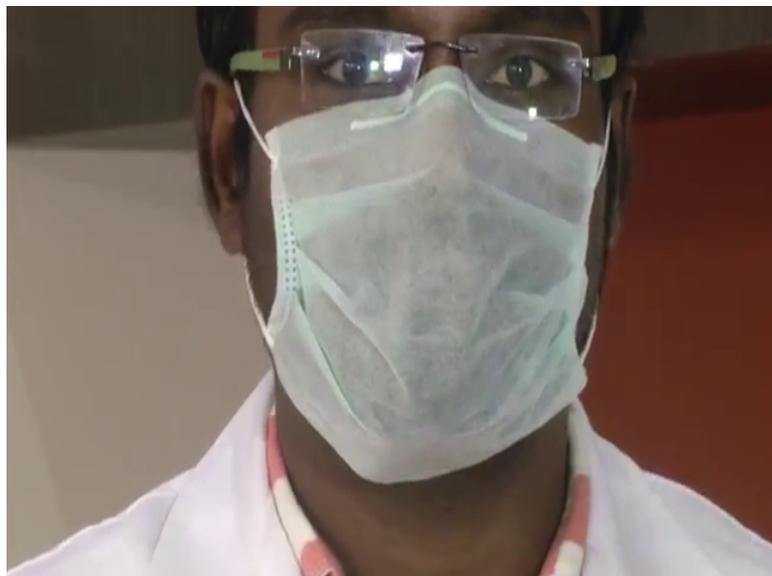
So, now he has finished wearing the gloves. The next component is to wear the face mask. So, we have kept face mask there now, Seetharam will go and wear face mask. Now Seetharam has worn the shoe, shoe cover, the night, the gloves and the coat.

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Next item that has to be worn is the face mask. So, now he will take the face mask that is kept on our table. First let us see, what exactly the face mask looks like?

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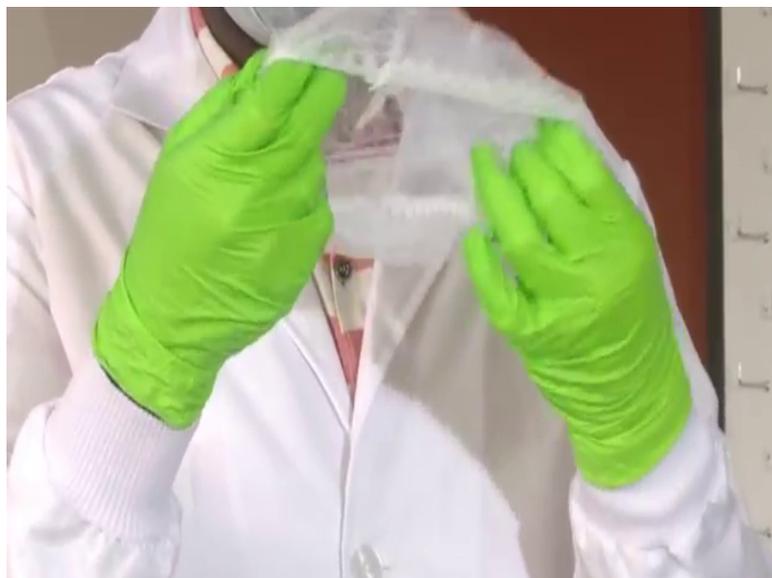


So, if you look closely, it has two elastic bands that that can be pulled and put across your ear and the face mask. If you see closely at the top, there is a metal, small metal strip that is kept. That is kept so that, you can align, your nose on top of the face mask.

So, that it is sealed very nicely around your nose. Now Seetharam has worn the face mask and the metal strip is nicely sealed on top of his nose and his face is fully covered

with the face mask. So, again the purpose of using a face mask is twofold, one he should not breath in any harmful chemicals, that is that are emitted during the process of your testing. Another thing is in case, he is having any disease, he should not spread the disease to other fellow lab members also, if there is some contamination from his breath that should also not affect other lab equipment or devices that are currently being tested. Remember this is a microfabrication lab and professor Hardik could have already covered that, contamination is a very serious issue in a field like micro fabrication and even very less number of particles can cause the device to totally malfunction.

So, we have to so, it is very important that, we take this, precautions before we even start our work. (Refer Slide Time: 05:31)



Next item that we have to wear is the head scarf. So, that we have kept here. So, we will get the head scarf like this as a very small very handy item that is compressed; we have to expand it with our hands. So, Seetharam is doing that. So, that it becomes big.

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So, once this is done you expand it with your hands then, we have to wear it on top of our head. Here you should make sure that, your hair is fully covered and it covers your nose this way any dust particles are there in your hair or if your hair falls out also these do not contaminate the lab environment. For ladies it is also specifically suggested and recommended that you should bundle, your hair and then keep it inside the head scarf, this is the correct lab procedure.

Now, Seetharam has finished the gowning process, let us see him overall and see what all he has worn. One is his head scarf on top of his head, next he has worn the face mask, we have seen, how the face mask is worn and what are the critical compounds in a face mask? Next is the lab coat as such or the gown. So, that will protect his clothes from getting damaged and will and will maintain uniformity across the lab members, who are working in the lab. Next is the hand gloves and finally, we have the shoe covers. So, those are the shoe covers which, Seetharam has worn on top of his shoes.

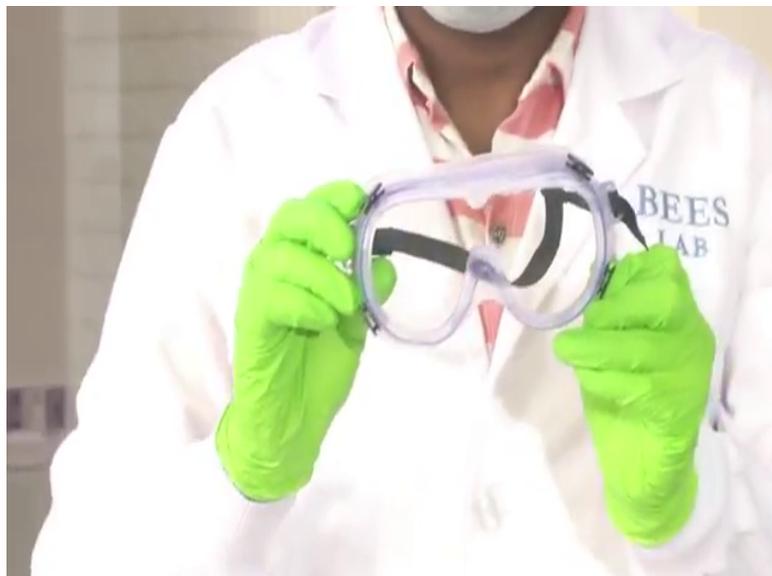
So, these are the main components that has to be worn in a lab environment, but for a lab that works in microfabrication, there are there is one more extra accessory that we have to wear, there is a goggle.

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So, we have a goggles box kept at the far end of this field of you. So, seetharam is opening the goggle box and taking one goggle from it.

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So, these goggles will protect because for a micro fabrication facility, we will handle lot of different types of light sources and much more corrosive chemicals.

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So, you have to protect your eyes. So, these goggles are specifically made for such a scenario. So, it has an elastic band below and Seetharam is wearing this, goggles on top of his eyes. So if you notice, Seetharam already has specs, which has power. So, if somebody in the lab is already having an eye wear or a specs, he has to wear the goggles on top of his eye wear. Some people what they do is? They will remove their eye wear and wear the goggles on top of it, but then their vision itself will get hampered and that can cause some dangerous incidents inside the lab. So, it is recommended that you feel comfortable in wearing the goggles on top of your specs and follow the lab practices to the core and to the book. So now, Seetharam has finished the gowning process for this particular lab environment and he is fully ready to start the work.