**Standard Operating Procedure for**

**Probe Station**

Procedure

1. Holding the sample in place

1. First turn on the probe station light, switch is on the left side of the stand
2. Place your sample on the chuck, make sure the probe tips do not come in the way
3. There are three suction holes (at the centre, on the 1st ring, and on the 2nd ring) on our probe station, but only the centre and the 1st ring holes are connected to the vacuum pump
4. Place your sample on one of the holes
5. Switch on the power supply and the main switch of the vacuum pump, the pump will start, now press the toggle buttons on the probe station to start suction through hole (No. 1 toggle is for centre hole and No. 2 toggle is for the 1st ring hole)

Using the Microscope and camera

1. The microscope has a pair of lenses, a knob to adjust focus, a knob to adjust the zoom and a camera to capture the set up
2. Adjust the focus and zoom, until you get clear picture of the sample through the lens (you can adjust the lens, if you wear spectacles)
3. Now you can use the camera, connect the USB cable of the camera to laptop
4. Open the ‘**ImageView**’ software installed on the lab laptop
5. Click on the button with the label **UCMOS03100KPA**, then click the snap or record to take a picture or record the video of the setup respectively

Connecting Micro-positioner to the SMU or Power Supply

1. Each micro-positioner has a probe connected at the front, each probe consists of an optical cable, and fine-turning knobs (X, Y, Z) to adjust the displacement in X, Y, Z axis
2. Now connect the optical cable to the SMU, to connect we need **BNC male to female connector**, **Banana plug to BNC converter** and the SMU **banana plugs**
3. First connect the **optical cable** to the **BNC male to female connector**, connect the **BNC male to female connector** to the **Banana plug to BNC converter**, finally connect the **Banana plug to BNC converter** to the **Banana plug**

How to touch the probe tip to the sample

1. Make sure all the above stated procedures are completed
2. Place the micro-positioner on the probe desk, such that the probe tip is above the sample
3. The tip won’t be clearly visible on the microscope,
4. Adjust the X, Y, Z fine-turning knob, to touch the sample at the desired position, for Z-knob: turning in ‘+’ direction take the probe in DOWN ward direction, and ‘-’ direction takes the probe in UP ward direction
5. When the tip comes very close to the sample, it will be visible in the microscope and shadow of the tip will be formed on the sample
6. Make very small movement until the shadow disappears that is when the tip has touched the sample, do not move any further, it might damage the tip and the sample
7. After completion, first remove the tip from the sample by Z-knob