MultiMode 8 Quick Guide

1. Log in to GMSF Equipment Kiosk.
2. Launch NanoScope 9.1 & Load appropriate Experiment.
3. With MM Head on Scanner, place your sample, attached to a magnetic disc, on the top of the scanner (Fig. 3).
4. If the Optical Head is not on the scanner, carefully position it on Scanner and attach it to the side posts using the springs (Fig 4).
5. **Check and adjust sample height.** If surface of sample is above the two side reference pins, hold switch on microscope base in UP position until sample is below the two reference pins as in Fig. 5.
6. To load tip, push down on back of probe holder to raise clip and insert probe. Probe should touch back and top of recess as in Fig 6 below.
7. Insert probe holder completely into Head, taking great CARE to clear the sample. Allow it to fall onto the reference pins (Fig 7). Tighten clamping screw on back of Head (Fig. 8).

8. Select Setup at Workflow Toolbar (Fig. 10) & turn on the illumination (on top of controller).

9. Lower camera above the optical head until you see the probe come into view. Use the x-y positioning knobs on the stage below the base of the microscope to center the probe in your field of view.

10. Continue lowering the camera until you see the surface of your sample come into your Field of View, FOV. Focus well on your sample surface.

11. Push the DOWN switch on the base of the microscope until you see the probe come into ALMOST complete focus. GOOD focus will result in crashing the tip into the surface! Allow a little fuzziness around the edges.

12. At this point you may be able to see the laser on the live display image to assist with alignment. If so, move the X/Y laser positioning knobs (Fig. 9) on top of Head to the tip location and note the SUM on the microscope display. Maximize SUM (Fig. 3). The SUM will vary depending on the type of tip you are using. If laser not in FOV, move X positioning knob below microscope display left or right to locate.

13. Using Photodiode adjustment knobs (Fig. 9), set VERT & HORZ to near zero, +/- 0.25 acceptable. See Base Display (Fig. 3).
14. Enter the type of probe you are using in *Tip Serial #* field (Fig.11).

15. If you are using Tapping Mode, select Auto Tune to set the drive frequency of the probe.

16. Select *Check Parameters* and enter starting Scan Size and Samples/Line. Select *Engage* (see Fig. 12).

17. *ScanAsyst* will automatically *Tune* as well as adjust *Gains* and *Scan Rate* to optimize the image. You can change *Scan Size* and adjust *X/Y Offsets* to center your area of interest while scanning.

18. After parameters have been optimized, select your *capture directory*, enter a *file name* and *Capture* image (Fig. 13, located at upper right of display).
MultiMode 8 Shut Down

1. Withdraw tip (hit withdraw on Toolbar 3-4 times to increase tip-sample spacing).

2. Carefully remove your probe.

3. Remove your sample and return stainless steel disc.


5. Turn off illumination.

6. END your session at the equipment kiosk.

7. Log off equipment kiosk.

8. If you require additional help scanning your samples, or, for any questions or concerns email diana.convey@asu.edu with details.