**Behavior Recording Protocol**

**Recording Setup:**  
You will need the Dell laptop, Grapevine neural interface processor, ethernet cable, power cords, Ripple single-ended cable, recording headstage, tether

1. Plug the laptop and Grapevine into power
2. Connect the laptop and Grapevine with an ethernet cable. This will go in the back of the laptop and the “eth” port on the Grapevine.
3. Plug the single-ended cable into the “A” port on the Grapevine
4. Plug the recording headstage into the single-ended cable. Tape these together.
5. Plug the tether into the headstage. Line up the ① and the blue dot
6. Turn on Grapevine. Wait until power light and “A” port light turn green.
7. Put laptop on airplane mode and close all applications
8. Open Trellis
9. Make sure the headstage is being picked up. Check the “hi-res” box and uncheck all others.
10. Click to the middle tab on the left. Open “Raster” and check the “hi-res” box. Open “Impedances” and check the boxes at the top left. Leave these open
11. Click the recording tab. Select the file location at the top right. Check ONLY “hi-res” box.
    1. Check new file every 5 min, enter time of recording if this is certain
12. Video recording software should have the video feed up and the correct file name typed into the location boxes before hitting record.

**Chamber Setup:**

1. Chamber should be filled with about 3½ scoops of new Alpha-dri bedding.
2. Turn on light, camera(s), monitors, and white noise machine.
   1. Feeding only: a second camera should be set up to film the feeding tube from the side. An additional light should be placed here
3. Turn off room light and take light measurement in chamber. Place meter at bottom middle of chamber and face detector straight up. Move back and adjust light until it reads approx 275 lux
4. Tie tether to end of rubber band so the end hovers about an inch from the chamber floor

**Animal:**

1. Fast ferret 3 hours before starting recording. Be as exact as possible with timing.
2. Bring ferret to 114 EEI at least 10 minutes before starting. Allow him to acclimate to chamber.
3. Remove cap from the ferret’s head
4. Attach the tether: the connector’s blue dot should point to the nose; the clip attaches to the headpost.
5. The tether should be kept out of the ferret’s way throughout the recording. Distract with stick is necessary.
6. Close curtain and backroom door during whole recording
7. When done, disconnect electrodes and clip. Replace cap.
8. If necessary, clean cap and head with chlorhexidine solution.

**Recording:**

1. Take impedances. Press start and wait for data to load. Hit save and put in animal folder with appropriate label. Take two measurements and save both.
2. Make sure all settings are correct, and press start on the Trellis and video recordings at the same time.
3. During Trellis recording, move the mouse every 10 minutes to prevent forced sleep
4. At appropriate time, stop both Trellis and video recordings at the same time.
5. Take impedances again. Make sure to differentiate these files from the previous ones.

**Data Upload:**

1. Trellis files
   1. Make a new folder inside Animal#>Trellis, labeled as follows: “baseline-4-mmddyyyy”
   2. Drag and drop all the recording files and impedance files from that test into the new folder.
   3. Only upload one folder’s worth of data at a time! Make sure to watch the upload finish because they frequently fail.
2. Video files
   1. Move video files from recording computer onto external drive
   2. Upload to Animal#>Videos on Box. Only upload a few at a time.
3. Notebook pages
   1. Image notebook pages with iPad – make sure lighting is good
   2. Rename the images as follows: “baseline-4-mmddyyyy”
   3. Upload to Animal#>Notebook Pages