* 1. Passive Taste/Odor Delivery with Spontaneous Trials

Setting up for day’s experiments

1. Fill your taste-tubes with corresponding tastants. Close them, seal the system, and pressurize.
2. Open Inspiron desktop
3. Open rdesktop session for raspberry pi (blechpi) (has “?” icon if open)
   1. If not open:
      1. Open new terminal on Inspiron (ctrl+alt+t)
      2. Enter rdesktop -g 1280x720 129.64.50.133
      3. Rdesktop window should open with raspberry pi desktop
   2. If login menu appears
      1. Usr: blechpi
      2. Pwd: blech
4. In the rdesktop window, open a new terminal (ctrl+alt+t, after making sure to click on rdesktop window. Terminal window header should start with “blechpi@blechpi-desktop”. Complete the following steps in the rdesktop terminal window:
5. Start the taste delivery program.
   1. cd Desktop/Dan\_code
   2. sudo ipython
      1. pwd: blech
   3. from dan\_taste\_delivery import \*
   4. From pi\_rig import\*
6. Clearout the lines.
   1. clearout([31],5)
      1. [31] is the valve #, you can replace with [33], [35], [37]
      2. 5 is the open time in seconds. Replace with whatever you need. Advise to not go over 30s at a time.
      3. Repeat until the taste lines you are using are clear of air/put out a steady stream. (sometimes an air bubble gets stuck below the valve. You can’t really clear that out)
      4. You can also simultaneously open all with [31, 33, 35, 37]
7. Calibrate each taste line you will use today.
   1. calibrate([31], 0.05, 5)
      1. [31] is the valve #, you can replace with [33], [35], [37]
      2. 0.05 is the open time in seconds. Modulate this until the output of the taste line weighs 0.15gr
      3. 5 is the number of repeats. Keep this constant always
   2. Write down the calibration value for each taste line for later. Calibration is good food the day

# Set up an animal to run

1. Lance rat’s IOC with clean lance
2. Install headstage amplifier chip, **with hole/screw towards the animal’s nose.**
3. Put rat in rig, plug manifold into rat’s IOC, plug intan cable into headstage, close doors
4. Keep red lights on, white lights off inside rig box
5. Turn on intan power strip behind computer/monitor. Intan board LED strip should turn on
6. In the Inspiron desktop:
7. Open intan software from the terminal:
   * 1. Usually there’s a terminal that’s kept open that’s already cd’d to the directory ~RHD2000interface\_source\_code\_v1\_5/source. If that’s open, just click on that terminal
     2. If opening from scratch--open a terminal and enter:
        1. cd RHD2000interface\_source\_code\_v1\_5/source
     3. Type in or key up until you see:
        1. ./RHD2000interface
        2. hit enter, intan software should open
8. In the intan software:
   1. Select File format
      1. Menu opens, select “one file per channel”
   2. Select Base Filename
      1. Navigate to big\_blech\_store
      2. Enter folder labeled with animal’s ID
         1. If there isn’t one, click on “new folder”, enter the animal ID, hit the enter key
      3. Base file name should be:
         1. [ANID##]\_spont\_h2o (for water days)
         2. [ANID##]\_spont\_taste (for taste days)
         3. I.e. DS44\_spont\_h2o
   3. Click on board digital inputs
      1. Click on the squares on the right representing the digital inputs you want to open and hit space to unlock them.
      2. Open DIN 00 and 04 for water days
      3. Open DIN 00, 01, 02, 03, 04 for taste days
   4. Set amplifier sampling rate to 30.0 kS/s
   5. Check Software/DAC high pass filter, leave value at default 250Hz
   6. Set Notch filter Setting to 60 Hz
9. In the rdesktop terminal window:
   1. For the following, under opentimes fill in the calibrated opentime for that valve instead of “##OP” i.e. “0.009”
   2. For water days:
      1. passive(outports=[31], intaninputs=[24], opentimes=[“0.009”], itimin=20, itimax=30, trials=60, sponttrls=60)
   3. For taste days:
      1. passive(outports=[hi 31,33,35,37], intaninputs=[24,26,19,21], opentimes=[31OP,33OP,35OP,37OP], itimin=20, itimax=30, trials=30, sponttrls = 60)
   4. Hit enter
10. Go to the Intan software and hit **Record**
11. Leave the room, turn off the lights, take your shit.