Notes on meeting:

1. For each stimulus (air puff etc), take the 300 frames

before the stimulus and the 300 frames after.

Look at the average value before and after.

Find the p-value of the average\_after - average\_before using

a non-parametric shuffle test.

I will send you the python code for this.

We are interested in neurons that have a p-value <= 0.01

-1 long set of frames. 10 seconds before and 10 seconds after. 300 frames before and after.

Run it on both data. Spiking\_values.txt and raw\_fluorescence.txt

Average value of 300 before and after.

Is it by chance or not.

300 after as drug

300 before as placebo (control)

for every neuron

2. Derivative question:

What percentage of neurons respond to the odor vs. the air puff.

3. Derivative question:

For each neuron, which responds to which stimulus. We can use Sungear to

illustrate this. Contact Dennis McDaid: [dm2936@nyu.edu](mailto:dm2936@nyu.edu)

4. For each neuron that passes the p-value test, look for the first

peak and identify the time interval before the

first peak when the neuron is between 5% and 95% of the peak.

Call that interval tau

Look to see that the values are going up. Ignore any values where it even or goes down a little bit. End of peak is where it goes down steeply. For every neuron that is significant look at the maximum values and find the first time that it reaches within 1% of maximum (first peak). Look at time period before first peak when values are between 5% and 95% of the value of the first peak. Called interval tau. For each neuron this is the tau for this neuron. Only for neurons that pass the p-value test for a given stimulus.

5. For each stimulus what is the order of neuron firing.

Draw this as a directed graph where x --> y if  the end of the tau(x)

precedes the beginning of tau(y).

cytoscape. Draw for each stimulus directed from neuron x to neuron y. If neuron x ends before tau for neuron y begins. Don’t care about overlapping ones.

Physical layout and arrows.

Physical one is same as before but line segments with arrows.

Draw it with arrows.

8->10

Also draw the map.