

1. Log in to the server via ssh:

```
ssh -X $userID@115.145.185.182 -p 1371
```

Change \$userID to your own user ID.

2. Detailed information about the NSD:

https://cvnlab.slite.page/p/CT9FwI4_hc/NSD-Data-Manual

3. Data directory: /SINLAB/SIN

Please save any data/output to this directory, not the home directory.

4. How to run jupyter lab remotely:

2.1 Start an interactive job,

```
qsub -l -l nodes=1:ppn=8,walltime=08:00:00,mem=16gb
```

You can change the nodes/walltime/mem variables for your specific job.

2.2 Activate environment and launch jupyter on the server

```
conda activate GenPFC_mini  
bash run_jupyter.sh
```

This should print out the command you need to copy and paste into your local terminal, something that looks like this:

```
ssh -N -L $ipnport:$ipnip:$ipnport $USER@115.145.185.182 -p 1371
```

2.3 Then in your local computer, open a terminal and paste in the command above.

Enter your password. Then you should be good to go.

2.4 Click on the link in the server terminal window to open your jupyter lab session, something that looks like this:

<http://127.0.0.1:9424/lab?token=xxxxx>

5. Download the NSD data (DONE)

Accessing the server via the remote desktop on a Mac

1. First, you need to set up a VNC viewer instance on the CNIR server.
After ssh-ing onto the server, run the following command:

```
vncview
```

Then it will ask you to choose which screen resolution you want, pick whichever.
It will prompt you to set up a password for the VNC viewer. Note this can be different from your ssh password. This is what you need to type in later on your local computer in the Screen Sharing app.

It will also ask you if you want to set up a view-only password. This may be useful if you are trying to show your desktop to a collaborator but it's not necessary.

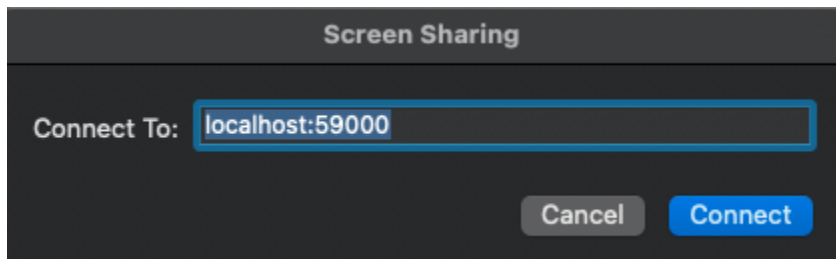
Then it will tell you the VNC has been set up and tell you the VNC port number (highlighted in red below):

New 'cnir00:2 (\$userID)' desktop is cnir00:2

2. Next you will need to start another ssh session on your local computer.

```
ssh -p 1371 -L 59000:localhost:5902 -C -N $userID@115.145.185.182
```

3. Open Screen Sharing app. Put in the local port number (59000)



Type in the vnc password you set up above
Then you should be good to go!

4. After you are done with your remote desktop session, you should close your Screen Sharing session, exit the ssh session opened in Step 2 and then on the ssh session opened in Step 1, type

```
vncserver -kill :2
```

Submitting computational jobs to the cluster

Sometimes you may want to run the same analysis on different data (e.g., for different sessions or subjects) so it will be more efficient to run them in parallel to make things more efficient. You can either do this via python's parallel processing packages (e.g., mpi) or by submitting different computational jobs.

Below are the steps for submitting a computation job to the cluster:

1. You want to wrap your analysis code into a python/matlab script so that you can call them from the job script.
2. Specific the memory/node/walltime requirement in your job submission script (see below for an example):

```
#PBS -N my_job # can change to this to your job name
#PBS -l nodes=1:ppn=8
#PBS -l walltime=24:00:00
#PBS -l mem=16gb
#PBS -q workq
#PBS -o output_task.log
#PBS -e error_task.log

# Activate conda
. /usr/local/python/anaconda3/etc/profile.d/conda.sh
conda activate GenPFC_mini

aws s3 sync --no-sign-request
s3://natural-scenes-dataset/nsddata_betas/ppdata/subj08/func1mm/betas_fit
hrf_GLMdenoise_RR/
/SINLAB/SIN/qi/NSD_GenPFC/data/nsddata_betas/ppdata/subj08/func1mm/betas_
fithrf_GLMdenoise_RR/ --exclude "*hdf5" --exclude "meanbeta*" --exclude
"R2*" --exclude "FRAC*" --exclude "HRF"
```

This script should be named as XXX.pbs (in my case, download_data.pbs)

3. Then you can submit this script to the cluster using the following command in terminal:
qsub download_data_rs.pbs
4. If it's successfully run, you should be able to see the status of your job using:
qstat -nas

If there's any error, you can see them in error_task.log (or any name you specify).