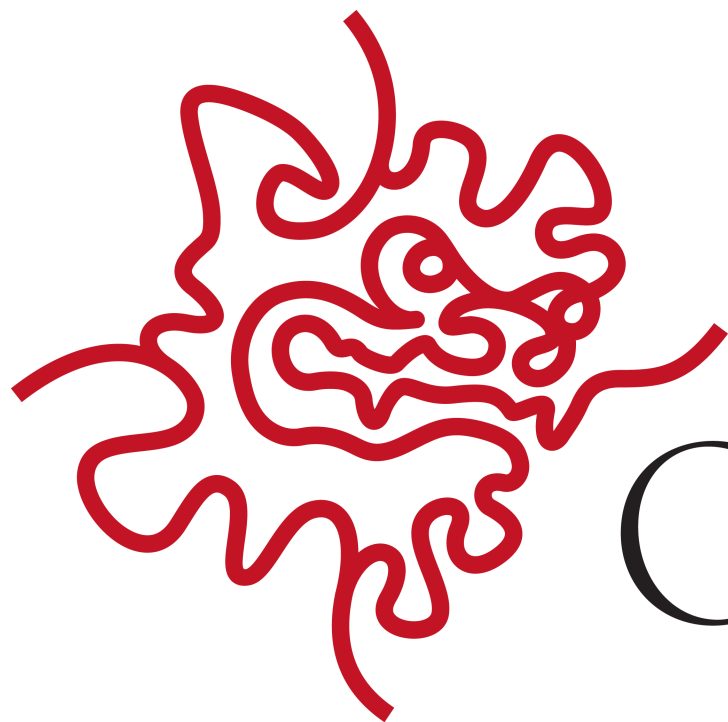




# **Skill Pill+:** **Evolutionary Genomics**

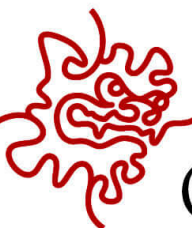
Linux terminal basics  
Jeremie Gillet



OIST

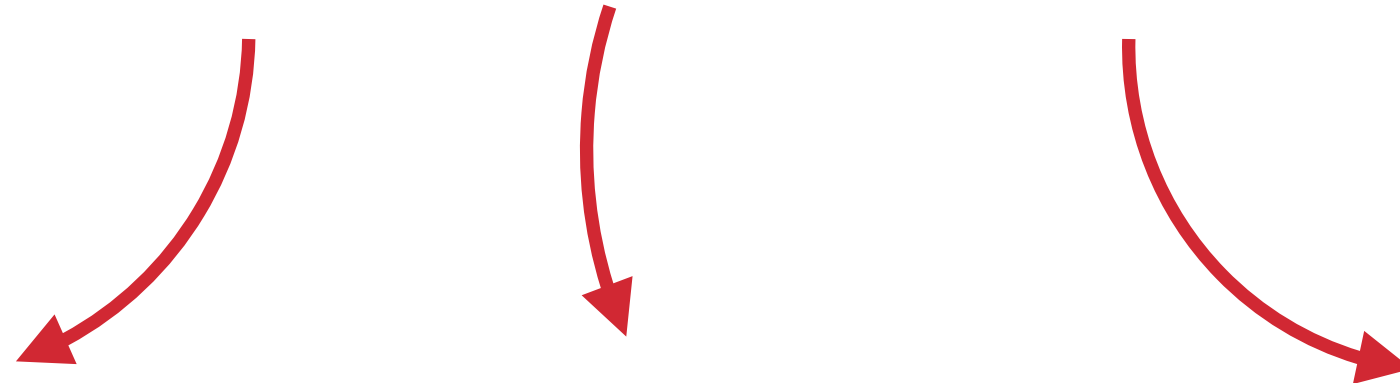
# Opening terminal

- Linux: open a terminal
- Mac: open a terminal
- Windows: open MobaXTerm



# What is a unix command?

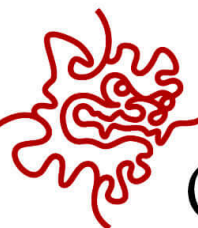
COMMAND OPTIONS ARGUMENTS



create folder  
search file  
self-destruct  
...

all files  
confirm first  
only Wednesdays  
...

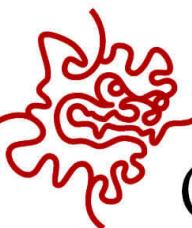
name  
path  
URL  
...



# Connecting to Nabi

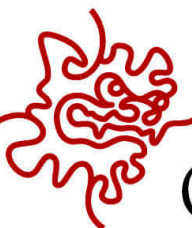
```
ssh <username>@nabi.oist.jp
```

The password won't appear, that's normal



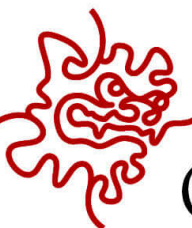
# Moving around

- `pwd` - tells you in which directory you are
- `ls` - tells you what's in the directory
- `cd <path>` - moves you elsewhere
- `cd ..` - moves you one directory back
- up/down arrows - navigates through previous commands
- `tab` key - autocompletes paths, your best friend



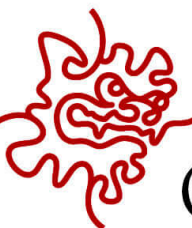
# Experiment time

- Try the command “`cd /`”, what does it do?
- Try the command “`cd ~`”, what does it do?
- Try the command “`cd .`”, what does it do?
- Navigate from “`/`” to “`~`” by hand using the tab key a lot



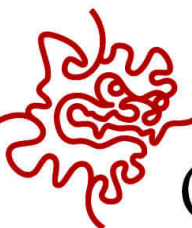
# Manipulating files

- `mkdir myfolder` - creates a new folder
- `touch filename.txt` - creates a file
- `rm filename.txt` - deletes a file
- `mv old_file_loc new_file_loc` - moves a file
- `cp old_file_loc new_file_loc` - copies a file
- `*` - means everything
- `-r` - makes commands work on folders



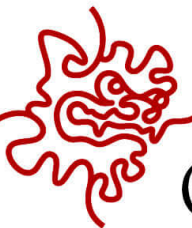
# Experiment time

- Create a folder with your name in  
`/work/spp_dec2018/`
- `cd` into that directory and create a subfolder named `skillpill`
- Copy in that folder everything that is in  
`/work/spp_dec2018/skillpill/`
- Make sure you have everything by typing  
`ls -lh`



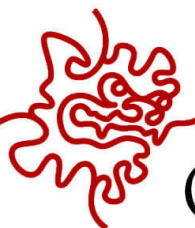


- `nano filename` - opens a file and allows editing. All options are shown at the bottom



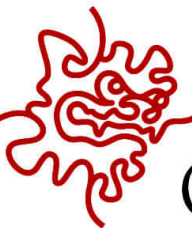
# Experiment time

- Create a text file, write your favorite color in it, save and quit. Open it again to add your favorite pony name and save.



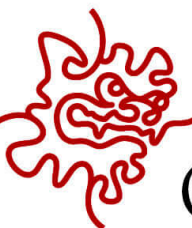
# Looking at files

- `cat filename` - outputs file in terminal
- `less filename` - shows file, q to quit



# Experiment time

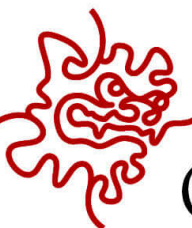
- Look at your colored pony file with `cat` and `less`
- Look at the files you copied from the `skillpill` folder



- Transfer data from your local computer, not from the cluster
- Works the same way as `cp`
- Files from your computer to Nabi:  
`scp -r some_folder username@nabi.oist.jp:~/path/`
- Files from Nabi to your computer:  
`scp -r username@nabi.oist.jp:~/path/some_folder dest`

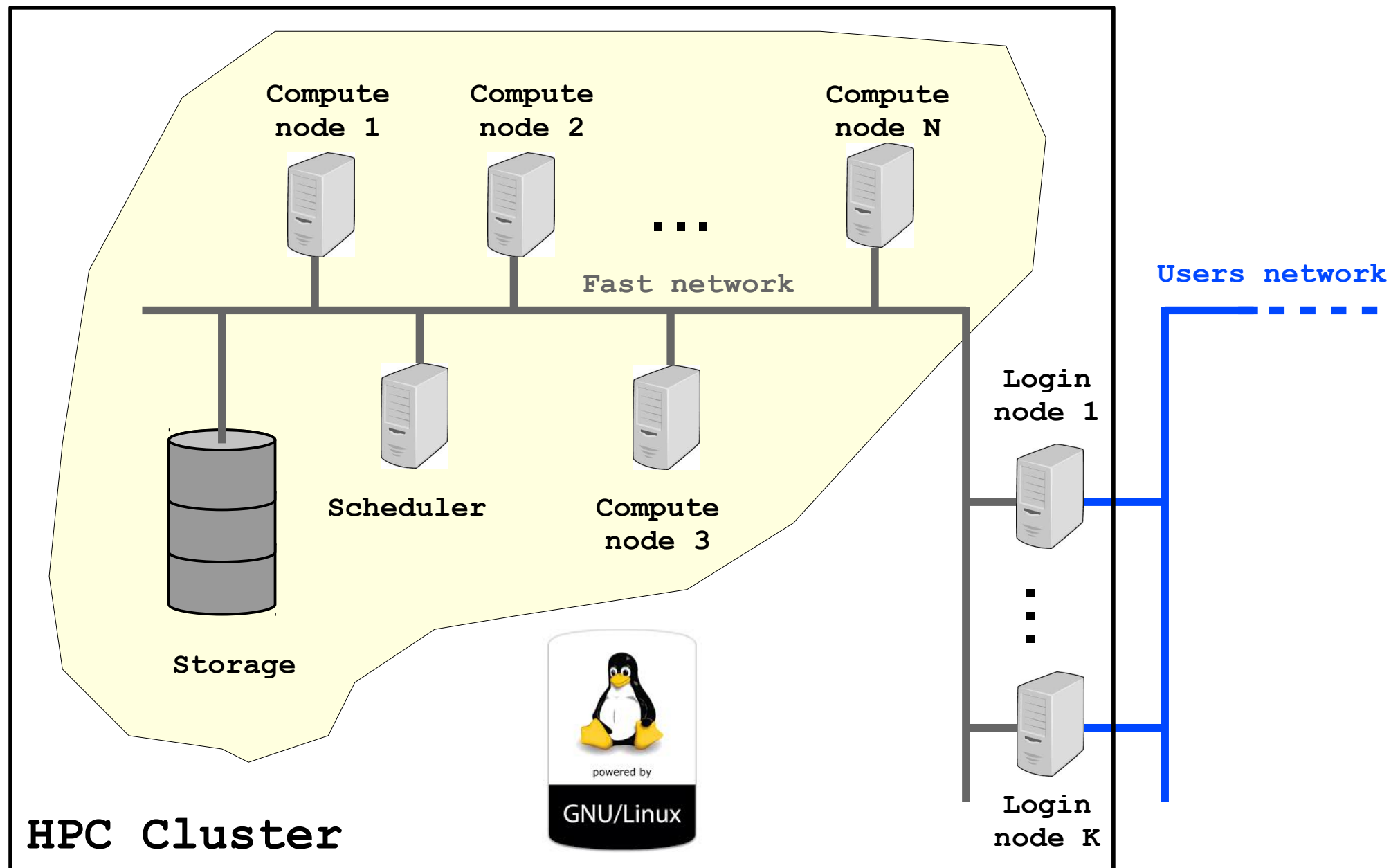
# Experiment time

- Transfer your color pony file to your computer
- It's OK to have several terminals open

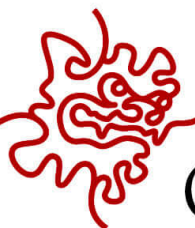


## HPC concepts

Architectures and operating system



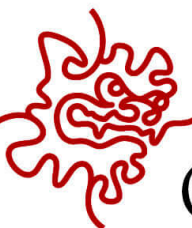
- SLURM manages everything on the cluster
- `sbatch` - runs a slurm script. Best, preferred method.
- `srun` - run a slurm job directly. Also for interactive jobs.





# Our first HPC job

- Go to your Skill Pill directory
- Run “ls”
- Run “srun ls”
- What is the difference?



# Use the cluster interactively

Connects your keyboard

“New  
terminal”

- `srun --pty bash` - loads a session on the compute nodes
- Use all the usual commands directly, for example: `ls`
- When you are done: `ctrl+D` or `exit` to quit

