Block Seminar "Software Carpentry”

In preparation for the one week intensive course/block seminar on software carpentry we ask that you get your computers set up in the following manner, *in advance of the course beginning*, in order to facilitate the course structure.

This year we are asking students to bring their own laptops for the course. Since most students work on their own laptops throughout the year we think that it is more suitable that you use your habitual environments. That said, there is no obligation on you to have a laptop in order to participate and since we will be working in groups you can still safely attend and not worry if you don’t already have one.

Advanced python programmers amongst you please note that *we will be working together in groups* so we need you to move to a homogenous environment that is recognisable by the other students.

User accounts

There is going to be a considerable amount of team work, where groups of students share a single computer. Please create a new login on your computer under which all of the work will be done. Do this now, before installing the software in order to avoid any PATH conflicts. Having a separate login for the purposes of the intensive course means that you will be more willing to share access to the keyboard with your fellow classmates and of course it provides a small measure or protection for your personal files.

Operating system

There are a number of problems using Windows with the course material, so we will not support it. In everything that follows we will have instructions for Linux and MacOS.

Windows users please download and install VirtualBox: https://www.virtualbox.org/

Then get the NeuroDebian Virtual Environment: http://neuro.debian.net/

- -use the drop down boxes to select your current operating system
- -then download the “Virtual appliance image”
- -instructions for importing this image into the VirtualBox environment are provided immediately below the download link

For everything that follows Windows users should launch the NeuroDebian virtual environment via VirtualBox and follow the instructions for Linux users.

Python3

We will be using Python3 from the scientific Python distribution Anaconda. If you already have some familiarity with Python please beware of conflicts when using pip and anaconda concurrently.

Use the download links for Python (3.6) to download and install Anaconda:

https://www.continuum.io/downloads

After installing Anaconda we want you to use conda based environments, this will prevent your from damaging your existing Python environment if you run into difficulties.

In order to do this, go to the command-line (Terminal) and run:

```
conda create -n bccn2017 python=3.6 anaconda
```

Finally, you need to switch to the newly installed environment using:

```
source activate bccn2017
```

You can list your currently installed conda environments by typing:

```
conda env list
```

a star (*) will appear beside your currently active environment.

You can return to your previous conda environment at any time by typing:

```
source deactivate
```

The above Python installation procedures should work equally well for both Linux and MacOS.

Editor/Development environment

For the purposes of the intensive course we will use simple text editors, with basic syntax highlighting. Even if you are familiar with an integrated development environment like PyCharm or Eclipse, we still want you to use a simple text editor for the course. If you already have a favourite text editor, and that editor supports decent Python syntax highlighting and auto-indentation, you can use it and skip the following instructions

For Linux:

We suggest Gedit. Please install using apt-get if you are using the NeuroDebian virtual environment, from the command-line run:

```
sudo apt-get install gedit
```

In order to have Gedit work correctly with Python, launch the editor and got to the Preferences. On the Editor tab: change the tab width to 4; select insert spaces; and select enable auto indent.

Linux should typically have enough compiler and development tools installed by default, so you probably already have them.

For MacOS:

We suggest using Atom, please download and install from here: https://atom.io/
Do not consider using TextEdit for your development work.

You will also need a working development environment in MacOS, so from the App Store install Xcode. This is a large download (>5Gb) so please do this well in advance of the start of the course. After installing Xcode you can also go ahead and install the command-line tools by entering the following in the Terminal:

```
xcode-select --install
```

Version control

We require a working Git implementation for participation in the course.

For Linux:

Git may already be installed by default. If not, type:
    sudo apt-get install git

You will also need a graphical git repository viewer, we suggest gitg:
    sudo apt-get install gitg

Finally, set your editor so that we can easily do multi-line commit messages by entering the following at the command-line:
    git config --global core.editor "gedit -s"

You should also now enter your user name and email address so that all of your additions to the repositories are tagged with this information. You can do this with the following:
    git config - -global user.name "Firstname Surname"
    git config - -global user.email test@example.com

For MacOS:

Download Git and install: http://git-scm.com/download/mac

For a visual repository viewer download the latest Gitx binary from:
    https://rowanj.github.io/gitx/

Finally, set your editor so that we can easily do multi-line commit messages by entering the following at the command-line:
    git config --global core.editor "open -W -n"

You should also now enter your user name and email address so that all of your additions to the repositories are tagged with this information. You can do this with the following:
    git config --global user.name "Firstname Surname"
    git config --global user.email test@example.com

GitHub

For the collaborative aspect of the intensive course you will need an account on GitHub.

Go to https://github.com/ and create an account.

Then send us your GitHub username via email.

We will add you to the class group (BCCN-Prog) in order for you to have access to the course materials.