Introduction to BIA4 workshops

Dear students,

As part of the BIA4 course, you will have the opportunity to practice what you have learnt in the lectures using some self-guided Python workshop about image analysis. These will be in the form of **Jupyter notebooks**.

When working your way through the workshops you will find some questions/exercises. If you are stuck somewhere, or you want to discuss a clever solution with the other students, please ask on the Slack channel!

If you have not used Jupyter before, you will soon come to love it!

Jupyter is a powerful tool for creating interactive notebooks. It is a web-based application that allows you to create and share documents that contain live code, equations, visualizations and narrative text. The basic idea is similar to R Markdown, where you can write text and include code snippets that are executed when you run the cell; however in Jupyter notebooks you can run code directly in the notebook.

The name "Jupyter" is a reference to the three core languages that it supports, which are **Ju**lia, **Pyt**hon and **R**, although it supports many other languages (over 40!).

In order to use it you can install the Jupyterlab package.

This is as simple as running `pip install jupyterlab` in your terminal; if you are not using `pip` as your package manager see the instructions on the Jupyter website.

I have attached a test notebook (called `Test.ipynb`) which you can use to check that everything works as expected!

More information about Jupyter can be found on the Jupyter website; also this page on the RealPython website provides a brief introduction to Jupyter. Most editors (e.g. VS Code, PyCharm, Atom, Sublime Text, etc.) also support Jupyter notebooks, so you can use your favourite editor to work with them.