During the course we will use **Python3** for programming exercises. In the first session, we will introduce some python tools. Please make sure that your Laptop (if available) has python3 installed. For all platforms the Anaconda installation package contains all necessary packages. However in a unix system I suggest to install python3 and its tools from the distro-repositories. The Anaconda packages can be found here: https://www.anaconda.com/

Download and installation links, and simply follow the installation guide:

1. **Windows** 64-bit install https://repo.anaconda.com/archive/Anaconda3-2018.12-Windows-x86_64.exe
2. **Windows** 32-bit install https://repo.anaconda.com/archive/Anaconda2-2018.12-Windows-x86.exe
3. **Mac**: https://repo.anaconda.com/archive/Anaconda2-2018.12-MacOSX-x86_64.pkg
4. **UNIX**: Either also install anaconda or run the following commands in the terminal
    1. sudo apt-get install python3
    2. sudo apt-get install jupyter-notebook
    3. sudo apt-get install python3-spyder

Check if Installation was successful:

5. Open Spyder3 and check if it boots
6. **Windows/Mac**: Navigate to Programs → Anaconda → Jupyter and check if it starts
7. **UNIX**: type *jupyter-notebook* into the terminal window and check if it boots
8. Jupyter should open in a Browser window

If everything boots, the basic installation should be done

9. **OPTIONAL:**
    1. Update to the newest spyder version:
        1. sudo apt-get remove python3-spyder spyder3
        2. sudo -H pip3 install spyder
        3. python3 -m pip install --upgrade PyQtWebEngine
    2. On Linux create a file called .pythonrc in the home directory and add the following lines to it:
       import os
       import sys
       import numpy as np
       import matplotlib.pyplot as plt
       import pandas as pd
       import scipy.constants as const
    3. Open up Spyder→ Tools → Preferences→ IPython console→ Startup
       Either add the file to the Pythonstartup or type the packages into the field *Lines* comma seperated.
    4. Additional packages can be installed using pip3 (Linux) or running conda in the Anaconda prompt
    5. Attention installing modules via the distribution repositories and pip can lead to conflicts and multiple installations of the same package

Install git:

- **UNIX**: If not preinstalled try your package manager (e.g. $ sudo apt-get install git)
- **Windows**: Download and install git: https://gitforwindows.org/.
- **MAC:** If installed run git –version and acitvate the command line tools, else download git from: https://git-scm.com/download/mac