SciPy India 2016
Software and Hardware Setup

General Instructions:

1. *All participants are requested to bring their laptop with mentioned software setup for the tutorial tracks.*
2. *Power ports may need to be shared among participants.*
3. *Internet connection will not be provided during the conference.*

Tutorials: Basic Track

1. Introductory Scientific Computing with Python: Ipython, Matplotlib, NumPy, SciPy

- Create a new user login account on your PC, let us say 'scipy'
- Login to 'scipy' account and download the 'Canopy' Python distribution for your OS and architecture https://store.enthought.com/downloads/#default
- Install instructions for Canopy:
  Windows: http://docs.enthought.com/canopy/quick-start/install_windows.html
  Linux: http://docs.enthought.com/canopy/quick-start/install_linux.html
  Mac: http://docs.enthought.com/canopy/quick-start/install_macos.html
- Practice files will be made available at http://scipy.in/downloads by 2PM Friday 9 Nov.

2. Python for Microcontrollers

Hardware requirements

- NodeMCU development boards with CP2102
- LED(Red), LDR(5mm)
- 10K, 220 Ohm 1/2 Watt resistor
- M-F, F-F Jumper
- MicroUSB cable (Please bring the microUSB to USB smartphone charger cable to connect NodeMCU with laptop)

Note: The NodeMCU and peripherals will be provided on shared basis except for the microUSB cable.

Software requirements

- GNU/Linux OS (preferably Ubuntu 14.04 or later)
- Packages on Ubuntu: sudo apt-get install python-serial gtkterm python-pip
- sudo pip install esptool
- Download & compile 'esp-open-sdk' from https://github.com/pfalcon/esp-open-sdk

- Thingspeak account https://thingspeak.com/
- Optional: A WiFi access point (mobile hotspot) to connect NodeMCU to internet

3. Introduction to Git

- Download and install ‘git’ for your system https://git-scm.com/downloads

Tutorials: Advanced Track

1. Introduction to Automated Testing in Python

- Python libraries nose and mock.
- You may install using **pip install nose mock**

2. Algorithm to Application: Using Traits and ETS

- Create a new user login account on your PC, let us say 'scipy'
- Login to ‘scipy’ account and download the 'Canopy' Python distribution for your OS and architecture https://store.enthought.com/downloads/#default
- Install instructions for Canopy:
  Windows: http://docs.enthought.com/canopy/quick-start/install_windows.html
  Linux: http://docs.enthought.com/canopy/quick-start/install_linux.html
  Mac: http://docs.enthought.com/canopy/quick-start/install_macos.html
- Install the ‘mayavi’ package from Canopy package manager
- Download and extract the exercise from https://github.com/pankajp/ETS_tutorial/archive/master.zip (will be available from Thursday 2PM onwards)

3. ExpEYES

- The ExpEYES hardware will be made available during the workshop on shared basis
- Install the package for your operating system from the given link http://expeyes.in/software.html