

Python Lab Automation Hackathon

Organizers:

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The main purpose of the event is to connect students and young professionals with experienced researchers to learn designing, modeling, data processing and lab automation using open source software.

Open source software, which is widely available, can offer significant advantages over standard commercial software in terms of flexibility, modularity and compatibility.

Python as a rapid prototyping programming language, is fun to learn and useful for lab automation as it runs on almost any computer and the functionality can be easily extended based on a comprehensive set of modules with good support for scientific applications.

In this hackathon we will provide several stations/demos, each staffed with a researcher, which will cover some of the following topics:

- Installing python on your computer (beginners)
- Introduction to the Python programming language (beginners)
- Python programming environment and web based tools (beginners)
- Plots and graphics in Python (beginners)
- Instrumentation control in Python
- Remote control and coordination of multiple computer for lab automation (advanced)
- Data processing on multicore and GPU based systems (advanced)
- Python software for photonic design