Job description for Project Associates in Beamline for Schools

In 2017 CERN will - for the fourth time - organize a Beamline for Schools (BL4S) competition. Details about the editions of 2014 to 2016 can be found at: http://beamline-for-schools.web.cern.ch/

Teams of high school students from around the world can make a proposal for an experiment at the T9 beam line of the PS accelerator. The proposals will be evaluated by a committee of experienced physicists and one or two winners will be nominated.

In the framework of this project CERN is looking for two young researchers (physicist, computer scientist or engineer).

The candidates will be responsible for the preparation and execution of the winners experiments.

In particular, the candidates will be in charge of:

- Answering technical questions of participating teams
- Participating in the selection process that leads to the nomination of the winners
- Turning the proposals of the winners into experiments that can actually be executed with the T9 beamline at the PC accelerator.
- Train the winners (once they are at CERN) on how to run the experiment and analyze the data.
- Be responsible for the actual execution of the experiment
- Help the winners with the post-processing of their data and the writing of a paper or article.

The main task will be the setting up of the TDAQ system of the experiments on the basis of the S/W that has been developed in 2014-2016. Depending on the experiment that will be chosen, the winners of the competition will have to:

- Develop additional S/W in C
- Develop code for the data analysis using C and Root
- Test and calibrate detectors (Pixel sensor, straw detector, calorimeters, scintillators, etc.)
- Integrate the detectors with the S/W and test the overall system
- Install the detectors, electronics and computers in the T9 beam line and debug and commission the system

During the implementation of the experiments (10 days in August, September or October 2017) the candidates will be fully responsible for the overall control of the experiment and will help the winning teams to achieve their scientific goals.

In order to fulfill this role, the candidates need to have a solid background in particle physics, computing science or electronics. Experience with small scale experiments

would be an advantage. In addition, the candidates should have basic skills in S/W development, detector construction and project management.

The candidates will work together as a team. In addition, the BL4S project leader, as well as experts from CERN, will provide help. Furthermore, documentation is available from past editions.

The candidates will be employed as Project Associates from 1. February 2017 to (at least) 30 September 2017.

If you want to know more, please contact: markus.joos@cern.ch