Call to scientific institutes for collaboration in the context of the Beamline for Schools competition at CERN

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 invites scientific institutes to participate in the organization of the competition by contributing the expertise of two young researchers (physicist, computer scientist or engineer) ("the experts") for the period from 1 February 2017 to 30 September 2017, subject to a possible extension.

Through these experts, the collaborating institutes will support CERN in the execution of the following tasks:

- Answering technical questions of participating teams;

- Participation in the selection of the winning teams;

- Turning the proposals of the winning teams into experiments that can actually be executed with the T9 beamline at the PC accelerator;

- Training the winning teams (once they are at CERN) on how to run their experiments and analyze the resulting data;

- Setting up of the TDAQ system of the experiments on the basis of the S/W that was developed in 2014-2016;

- Overseeing the actual execution of the experiments of the winning teams;

- Assisting the winning teams with the post-processing of their data and the writing of a dedicated paper or article.

In addition and depending on the experiments proposed by the winning teams, the experts of the collaborating institutes will support CERN in the following work:

-Developing additional S/W in C;
-Developing code for the data analysis using C and Root;
-Testing and calibrating detectors (Pixel sensor, straw detector, calorimeters, scintillators, etc.);
-Integrating the detectors with the S/W and test the overall system;
- Installing the detectors, electronics and computers in the T9 beam line, debug and commission the system.

During the performance of the experiments (10 days in August, September or October 2017) the experts will be responsible for overall oversight and will help the winning teams to achieve their scientific goals.

The experts need to have a solid background in particle physics, computing science or electronics, as well as some experience with small scale experiments. In addition, the experts need to have basic skills in S/W development, detector construction and project management.

The detailed modalities of the proposed collaboration will be set out in a dedicated agreement between CERN and the institute(s) concerned.

For further information, interested institutes may contact: markus.joos@cern.ch.