



Contribution ID: 745

Type: **Parallel Talk**

3D-Printable Experiments in CERN's S'Cool LAB

Saturday, 8 July 2017 10:15 (15 minutes)

S'Cool LAB (<http://cern.ch/s-cool-lab>) is an international out-of-school hands-on particle physics learning laboratory at CERN, Geneva, Switzerland. It aims to give an insight into the working methods, technologies, and research of the world's largest particle physics laboratory and to make CERN's physics and technologies understandable for high-school students through hands-on experimentation. In 2016, almost 6000 high-school students and their teachers from more than 30 different countries took part in hands-on workshops in S'Cool LAB.

The topic of particle physics is rarely addressed in high-school curricula. One of the reasons cited by teachers is a lack of suitable classroom experiments, especially because the high-tech equipment used in today's particle physics experiments is too expensive for standard high schools. Well-equipped out-of-school learning places like S'Cool LAB can close this gap and provide hands-on experience for visiting students. In addition to workshops on-site, the S'Cool LAB team is developing low-cost do-it-yourself equipment, which will hopefully support teachers in their challenging endeavour of introducing particle physics in their own classroom.

3D printing technology in particular has the potential to revolutionize the way physics is taught, because it makes it much easier to design and produce customized parts for school experiments or to build new prototypes. Using this technology, many hands-on experiments suddenly become affordable and easily available.

In this talk, we will present S'Cool LAB and its offers for schools from around the world. We will also present two 3D-printable hands-on experiments, a functional model of the toroidal ATLAS magnet system and a particle trap, and discuss their educational use.

Experimental Collaboration

Primary authors: WOITHE, Julia (CERN); BROWN, Alex (Universite de Geneve (CH)); FEISTMANTL, Alexandra (University of Vienna (AT)); KELLER, Oliver Michael (CERN); Dr SCHMELING, Sascha (CERN)

Presenter: WOITHE, Julia (CERN)

Session Classification: Outreach, education, diversity

Track Classification: Outreach, Education, and Diversity