



High-School Students Internship Programme

- a view of the 2017 pilot programmes -

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CERN Council 14/12/2017



International Relations - *Relations Internationales*

Need and Mission

Need

CERN has been providing programmes for **high-school teachers** for 20 years

However, for **high-school students** the possibilities for in-depth participation are more limited:

- visits to CERN facilities
- internship opportunities for a very limited set of countries
- Introduction of S’Cool Lab for hands-on experiments

High-school students are a key target audience, in order to increase

- curiosity and interest for science in society generally
- knowledge of science in future generations specifically
- the number of students taking up physics and applied disciplines in the longer term

Mission – part of a broader effort to expand and refine the options for students

- To provide young people **at high-school level** with the opportunity to work hands-on in an international research laboratory
- To motivate high-school students to take on a career in physics, engineering & computing



Programme Overview

Target Audience

- **high-school students aged 16+**

Concept

Welcome up to **24 high-school students** from the same country
Students come to CERN for a two week internship, which includes:

- **Work shadowing**
- **Development of students' own projects**
- **Gaining insight into an international research Laboratory**

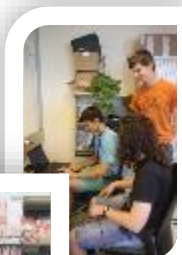
Implement five programmes per year at the outset

Selection

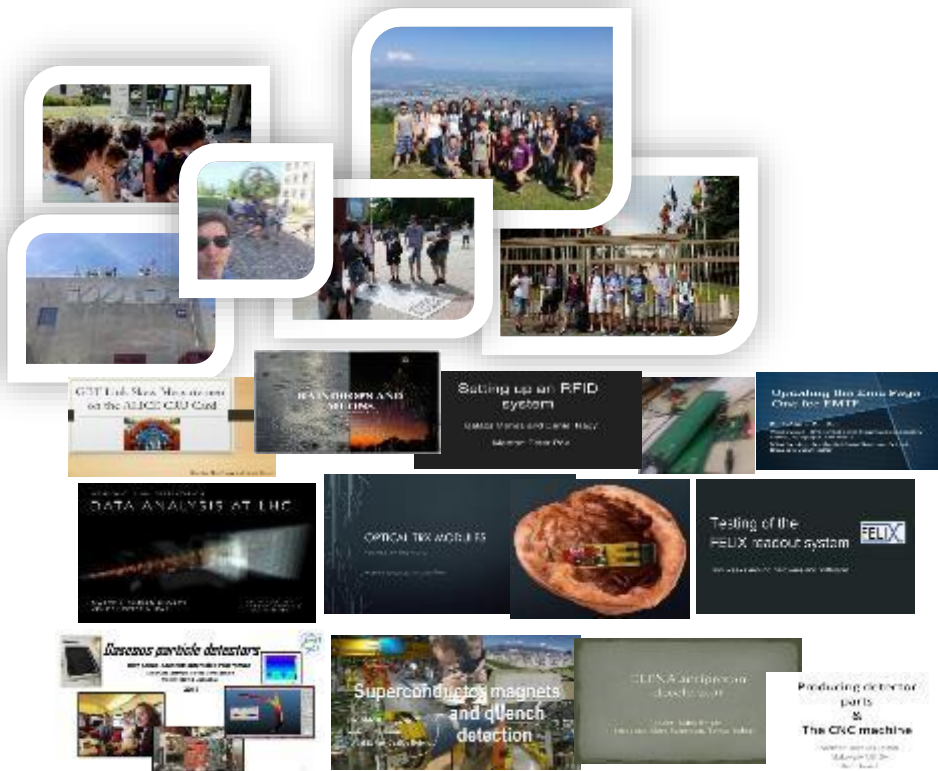
CERN oversees a fair selection in each country

Evaluation

Questionnaires for students and CERN participants
Evaluation of the projects during the final presentations
Collection of media interest in each country



Programme Description



Framework Programme

- Sunday (week 0)
 - Arrival and Welcome
- Monday (week 1)
 - Introduction to CERN
 - Safety Courses
 - Access Formalities
 - Start at the workplace
- Tuesday-Friday (week 1)
 - daytime: work at the designated workplace
 - evening: social programme or free time
- Weekend (week 1)
 - social programme or free time
- Monday-Thursday (week 2)
 - daytime: work at the designated workplace
 - evening: social programme or free time
- Friday (week 2)
 - **Presentations of their work and achievements**
- Saturday (week 2)
 - Departure



Programme Organisation

Key Personnel

50% Fellow coordinating all programmes, administrative support in IR-ECO-TSP

Per Programme

- **one national contact in the country**
- one national contact at CERN
- two accompanying adults from the country
 - Preferably teachers with experience in school trips

Country Selection

In 2017:



Communications Strategy

- Programmes announced to Council
- Communicated internally to CERN personnel
- External communication by CERN for each programme
- Communication in the respective countries led by
 - the *Council Delegates*
 - the Member of the *Teacher and Student Forum*
 - the national contact

Monitoring

- Scientific monitoring by doctoral and post-doctoral researchers in *Physics Education Research* is in preparation
- General monitoring through the *Teacher and Student Forum*



Application process

Hungary

- teachers suggested their best students
- 50 applications received

Portugal

- Open call from Ciencia Viva (national agency for the promotion of initiatives for the public awareness of Science and Technology in Portugal) – Motivation letter & web-form
- 64 applications received

Bulgaria

- Open call – Recommendation letter & web-form
- 326 applications received

Norway

- Open Call – motivation letter
- 150 applications received

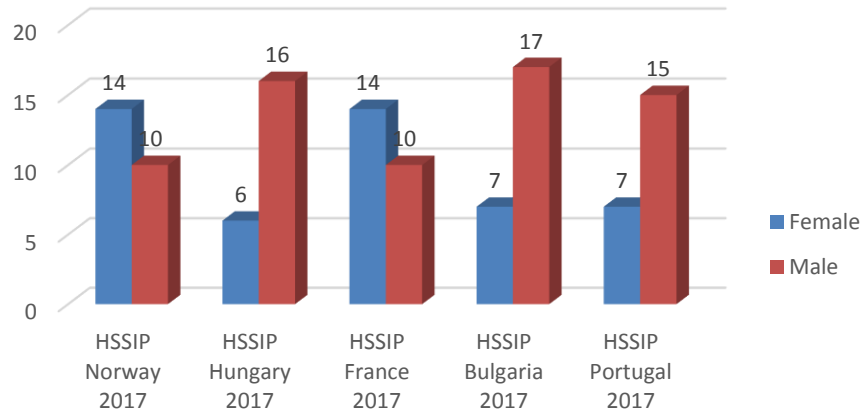
France

- Open Call – motivation letter, recommendation letter, video, web-form
- 140 applications received

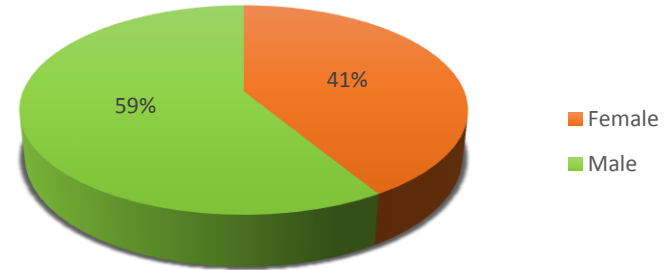


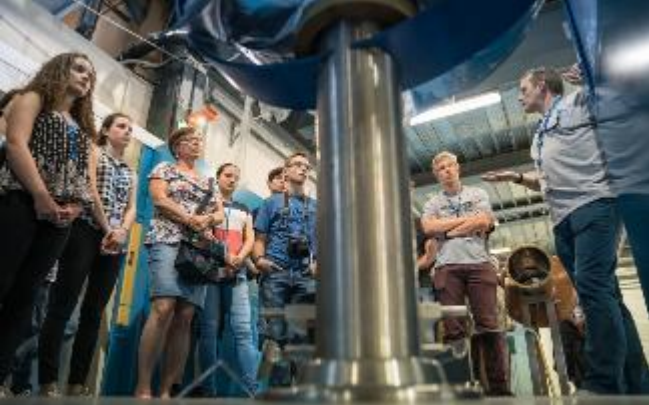
Gender dimension

Gender overview per country



Gender overview for all programmes





CERN launches internship programme for high-school students

by Ines Knapper

Posted by Iva Raynova on 2 Jun 2017. Last updated 2 Jun 2017, 14:25.

Voir en français

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The first students participating in the High-School Students Internship Programme (HSSIP) during their visit to SM18 (Image: Julien Marius Ordan/CERN)

At CERN, you can see student interns all year round, but this year you may also spot the first participants of the official High-School Students Internship Programme (HSSIP). HSSIP is a programme developed by the ECO group's Teacher and Student Programmes section to engage students from a young age with scientific research

MAGYAR TUDOMÁNYOS AKADÉMIA

wigner WIGNER Fizikai Kutatóközpont
Sokszínű Fizika

Kulcsszavak

English Hungarian

2 HÉT + 22 MAGYAR KÖZÉPISKOLÁS + GENF = HSSIP 2017

A CERN 22 tagországból évente ötből várnak majd diák csoportokat erre az újszerű, bentlakásos programra. Magyarország, köszönhetően több korábbi, úttörő jellegű tanár- és diákprogram elindításának és sikeres levezénylésének, elsőként élhetett ezzel az egyedülálló lehetőséggel. 2017. május 22.-június 2. között 22 diák és 2 kísérőtanár utazhatott a CERN-be.



A Genfben kiutazó magyar diákok az első napokban egy átfogó képet kaptak a világ legnagyobb részecskefizikai laboratóriumának felépítéséről, működéséről, az itt folyó tudományos munkáról, majd a CERN legnagyobb kísérleteibe, s az ezekhez kapcsolódó kutatásokba nyertettek bepillantást.

A Nagy Hadronütköztető (LHC: Large Hadron Collider) 100 méterrel a föld alatt, 27 km kerületű alagútban húzódik a genfi repülőtér és a közeli Jura-hegység között. Jelenleg ez a CERN legnagyobb gyorsítója. 2009 novemberében kezdett működni, legfontosabb célja a többi részecskének tömeget adó Higgs-részecske felfedezése és a szuperzimmetria elméletének

High-School Student Internship Programme

1st Hungarian

22nd May – 2nd June 2017

Feedback from national coordinators

- Student & project mapping is important
- Broad range of projects are interesting for the students, learning about connections across different work areas
- Alumni HST or NTP teachers are great accompanying persons
- “Stand-by” replacement for teachers and / or supervisors are needed



Feedback from participants

- Changed the view of “what scientists do”
- Impressed by the international, collaborative work
- Relation between science/particle physics and other disciplines clearer
- Importance of computing knowledge
- *« C’est de loin le plus beau stage que j’ai pu réaliser. Je souhaitais vous dire que j’ai été tout simplement émerveillé par ce stage et toutes les choses incroyables que j’ai pu y découvrir [...] Tout cela pour vous dire que ce stage a été pour moi une révélation. J’ai maintenant la certitude que ma place est dans la physique [...] »*

→ We have new high-school student ambassadors for physics and CERN!



Countries for HSSIP in 2018







Budget [CHF]

	Students	Teachers	
per programme			
Travel			
maximum 500/p	12'000	1'000	13'000
Stay			
Accommodation	12'000	1'500	13'500
Board	12'500	1'050	13'550
Miscellaneous Cost			
Social Activities			1'800
Transportation			1'750
Material			1'400
Total			45'000
Programme Manager (fellow 50%)			60'000

- Five programmes per year with the needed 50% programme manager as a fellow amount to

285'000 CHF

