Science and Exchange

Exchange and mobility may also take place in scientific institutions or programs worldwide. Several partner institutions of Switzerland offer exciting and helpful internship opportunities. Fit also for the C.V. Enroll now!

ELIXIR Training Programme
ELIXIR seeks to fill training gaps left by transformative technologies in medicine and the life sciences, including how big data is generated, analysed and interpreted. Most life science professionals will need to be upskilled to take advantage of the exponential growth of bioinformatics tools and data. It develops and delivers both e-Learning and Face-2-Face training to researchers, developers and infrastructure operators and trainers. This training is in topics identified as gaps within the ELIXIR community and in the ELIXIR use cases. Provides and coordinates training to transform scientists into effective users of the data, tools, standards and compute infrastructure provided by ELIXIR.
Increases the number of trainers (training capacity building) with a dedicated Train the Trainer programme.
Develops good practice guidelines and a training evaluation system in collaboration with GOBLET.
Aimed at postgraduate and industry.

Localisation (city): Delocalized (BE, CZ, DK, GB, EE, FI, FR, DE, GR, HU, IE, IT, IL, LU, NL, NO, PT, SI, ES, SE, CH)
Institution: ELIXIR
Educational level: Adult education
Sector: Biology, Informatics, Data analysis
Duration: Short training courses of 1-10 days in length.
elixir-europe.org/platforms/training

DESY Summer student Programme
Each summer DESY offers undergraduate students in physics, related natural science disciplines or computing the possibility to participate in the research activities of the laboratory. Selected candidates join in the day-to-day work of research groups at the DESY Laboratory in Hamburg or Zeuthen (Berlin) and participate in one of these activities.
While the work in the groups is the main activity, there will also be a series of lectures (given in English) related to the research done at DESY. Visits to the accelerators and experiments are also included in this programme.

Localisation (city): Hamburg/Berlin (DE)
Institution: European XFEL
Educational level: Higher education (Tertiary education)
Sector: Physics
Duration: 8 weeks
summerstudents.desy.de
EIROforum School on Instrumentation
Every 2 to 3 years a school for Instrumentation is organized under the umbrella of EIROforum, and aims at giving the participants an overview of the basic and advanced principles of instrumentation, and hands-on experience of the values of interdisciplinary project work. The event also includes talks on instrumentation concepts from the fields of Free-Electron Lasers, synchrotron radiation, astronomy, space science, high energy physics, fusion, neutron science and molecular biology.

Localisation (city): Hamburg (DE)
Institution: European XFEL
Educational level: Higher education (Tertiary education)
Sector: Instrumentation (physics, biology)
Duration: 1 week
www.eiroforum.org/news/5th-eiroforum-school-instrumentation

European XFEL - PhD and master students
PhDs and some master students can study and work at the European XFEL research facility, with the administrative supervision retained by the universities with which the facility is collaborating with.

Localisation (city): Hamburg (DE)
Institution: European XFEL
Educational level: Higher education (Tertiary education)
Sector: Physics, biology, material sciences
Duration: Ad hoc
www.xfel.eu

EUCYS competition
The EUCYS (European Union Contest for Young Scientists gives students the opportunity to

- compete with the best of their contemporaries at European level
- meet others with similar abilities and interests
- get guidance from some of the most prominent scientists in Europe

It highlights the best of European scientific student achievements and attracts widespread media interest. (Text from the EUCYS website)

Localisation (city): Delocalized (Europe)
Institution: EUCYS
Educational level: Higher education (Tertiary education)
Sector: Natural sciences, mathematics, social sciences
https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/eucys_en

CERN National Teacher Programmes
CERN International Teacher Programmes
This 3-week residential programme, open to teachers from all CERN member and observer states, as well as from other countries subject to funding availability, who would like to update their knowledge of particle physics, its associated technologies and related subjects.

Localisation (city): Geneva
Institution: CERN
Educational level: Adult education and teacher education
Sector: Physics
Duration: 3 weeks
teachers.cern.ch

Upper secondary education Students Internship Programme
CERN invites high-school students (from 16 years) to come to CERN for two weeks, to gain practical experience in science, technology, and innovation. It focuses on giving students the chance to discover STEM in the CERN context and environment, strengthening their understanding of science, and developing their skills in a high-tech environment.

Localisation (city): Geneva
Institution: CERN
Educational level: Upper secondary education
Sector: Physics
Duration: 2 weeks
hssip.web.cern.ch

Summer student programme
The CERN Summer Student Programme offers students pursuing bachelor’s or master’s degrees in physics, computing, engineering and math a unique opportunity to join in the day-to-day work of research teams participating in experiments at CERN in Geneva, Switzerland.

Localisation (city): Geneva
Institution: CERN
Educational level: Higher education (Tertiary education)
Sector: Physics
Duration: 8-13 weeks
home.cern/summer-student-programme
### Teacher school programs
The ESO Educational Office is part of the education and Public Outreach Department. The aim is to provide support for astronomy and astrophysics education, especially at the high-school level. This includes teaching materials, courses for teachers and specific educational projects, often in collaboration with partners such as the European Association for Astronomy Education (EAAE), the EIROforum, the European Commission and others.

**Localisation (city):** Delocalized in Europe (mostly Munich, DE)
**Institution:** ESO
**Educational level:** Teacher education
**Sector:** Astronomy
**Duration:** Typically 2-4 days
**Educational material:**
- [www.eso.org/public/outreach/eduoff](http://www.eso.org/public/outreach/eduoff)
- [www.scienceinschool.org](http://www.scienceinschool.org)
**Teacher school programs:**
- [www.eso.org/public/outreach/eduoff/teachershools](http://www.eso.org/public/outreach/eduoff/teachershools)

### Astronomy camp for lower secondary students
The camp will explore the theme of the Exoplanets via several astronomical sessions, including lectures, hands-on activities and night-time observations with the telescopes of the Observatory, alongside various social activities, winter sports and excursions.

**Localisation (city):** Aosta (IT)
**Institution:** ESO
**Educational level:** Lower secondary education
**Sector:** Astronomy
**Duration:** 1 week
**www.sterrenlab.com/camps**

### Erasmus Mundus Programme
European educational initiatives in fusion aim to maintain the expertise that has placed the EU fusion program at the forefront of international fusion research and engineering and to ensure the availability of competent staff to construct and operate ITER and DEMO.

**Localisation (city):** Delocalized (worldwide)
**Institution:** Fusion for Energy / ITER
**Educational level:** Higher education (Tertiary education)
**Sector:** Physics
**Duration:** Master: 2 years, PhD: 3 years
**www.iter.org/education/international/erasmus**

### FuseNet - The European Fusion Education Network
FuseNet develops education material and activities for lower secondary schools, supports master and PhD students in fusion to participate in an educational activity, it sponsors internships, organizes a yearly PhD event, awards certificates to students that fulfill the qualifications as defined by the fusion research field, develops teaching material and much more.

**Localisation (city):** Delocalized (worldwide)
**Institution:** Fusion for Energy / ITER
**Educational level:** Lower secondary education / Tertiary education
**Sector:** Physics
**www.fusenet.eu**

### Summer schools
Summer schools on different topics for students.

**Localisation (city):** Delocalized (worldwide)
**Institution:** Fusion for Energy / ITER
**Educational level:** Higher education (Tertiary education)
**Sector:** Physics
**Duration:** Typically 1-2 weeks
**www.iter.org/education**
**European Learning Laboratory for the Life Sciences**
EMBL scientists visit schools; school groups visit EMBL; 2-3 days training courses for secondary biology teachers.

Localisation (city): Heidelberg (DE)
Institution: EMBL
Educational level: Lower and upper secondary school / Teacher education
Sector: Biology
Duration: School: single visits
Teachers: 3 days
https://www.embl.de/training/schools/index.html

**Undergraduate internships**
EMBL welcomes undergraduate students of all disciplines in the natural sciences extending from biology, chemistry, physics and mathematics to medicine, informatics and engineering. Undergraduates will carry out research at one of EMBL's laboratories in Heidelberg (Germany), Grenoble (France), Hamburg (Germany), Hinxton (near Cambridge, UK), Rome (Italy) or Barcelona (Spain). Undergraduate internships are normally part of the student's Diploma, Bachelor or Masters' thesis project at another institution. EMBL can help with different solutions in view of accommodation. Students may receive payment during their internship, e.g. from grants available to the respective Group Leader.

Localisation (city): Delocalized (Heidelberg DE, Grenoble FR, Hamburg DE, Hinxton UK, Rome IT or Barcelona ES)
Institution: EMBL
Educational level: Higher education (Tertiary education)
Sector: Biology
Duration: Flexible
www.embl.de/training/undergraduates/index.html

**HERCULES (Higher European Research Course for Users of Large Experimental Systems)**
The five-week school consists in specialized courses, lectures, practicals, tutorials and visits of European Large Facilities (co-organized with University Grenoble Alpes and Institute National Polytechnique). It provides students, postdoctoral and senior scientists from European and non-European universities and laboratories with an overview of the techniques and scientific possibilities associated with neutrons and synchrotron radiation for condensed matter studies (biology, chemistry, physics, materials science, geosciences, and industrial applications).

Localisation (city): Grenoble (FR)
Institution: ESRF
Educational level: Higher education (Tertiary education)
Sector: Physics, Large facilities for natural sciences, industrial applications
Duration: 5 weeks
www.esrf.eu/home/education/hercules.html

**X-Ray and Neutron Science - International Student Summer Programme 2018 (joint programme ESRF/ILL)**
4-week experimental project embedded in a research group of ESRF or ILL, together with a series of introductory lectures on the principles and applications of X-ray and neutron science (magnetism, materials science, soft matter, structural biology, imaging, etc.). Financial support and free accommodation in Grenoble.

Localisation (city): Grenoble (FR)
Institution: ESRF / ILL
Educational level: Higher education (Tertiary education)
Sector: Physics, biology, material sciences
Duration: 4 weeks
ESA Young Graduate Trainees (YGT), Swiss National Trainee Programm (NTP); Internships; PhD Students; Research Fellows

YGT: The programme lasts for one year and gives participants an opportunity to gain valuable experience in the development and operation of space missions. Opportunities go online once a year in mid-November, and stay open for one month.

NTP: The programme offers the opportunity to work at the European Space Agency ESA and gain valuable experience in the development and operation of space missions. National Trainees gain valuable hands-on training and experience, launching their career in the space sector in industry, research or, of course, at ESA itself. This, in addition to the rich personal experience of living and working in another country within an exciting, diverse and international environment, makes the NTP very unique. Announcement April/May.

Localisation (city): Delocalized at European Space Agency ESA Centers (Nordwijk, Paris, Madrid, Rome, Cologne, Darmstadt)
Institution: ESA
Educational level: Higher education (Tertiary education) (with Masters)
Sector: Natural sciences, mathematics, social sciences, Interest in space science and applications
Duration: 1-2 years training; Others depending on programme
http://www.esa.int/About_Us/Careers_at_ESA/Graduates_Young_Graduate_Trainees
https://www.spacecenter.ch/activities/spacecareer/ntp/

ESA Teacher Workshop; Galileo Teacher Training

The workshops, identical in both summer and autumn editions, feature keynote lectures from top-level space experts and visits to the ESA ESTEC facilities. Over the course of a four-day programme, the participants will engage in practical training sessions that demonstrate how to use space in the classroom as an inspirational context.

Localisation (city): Nordwijk (NL)
Institution: ESA
Educational level: Teacher education
Sector: Subjects taught by primary and lower secondary school teachers
Duration: 2 times / year (July & October)
http://www.esa.int/Education

ESA Academy is ESA’s overarching educational programme for university students from ESA Member States

Hands-on space projects and experiments. Training courses with ECTS.

Localisation (city): Redu (BE)
Institution: ESA
Educational level: Higher education (Tertiary education) Sector: Galileo Teacher Training
Duration: Ongoing announcements on the ESA website
http://www.esa.int/Education/ESA_Academy

Series of challenges & competitions tailored to different age groups and open to all ESA Member States (e.g CanSat, Astro Pi, Mission X, Moon Camp Challenge, Climate Detectives)

See section "School Projects"

Localisation (city): Delocalized - local to classrooms/schools with possibilities for travel
Institution: ESA
Educational level: Primary and lower secondary education
Sector: All subjects, with some emphasis on physics, mathematics, biology, chemistry
Duration: Ongoing announcements on the ESA website
http://www.esa.int/Education