



making physics matter



How to...

Plan a trip to CERN

Aims

- To support students' learning of A-level curriculum topics including particle physics, fields and accelerators
- To increase students' physics aspirations by seeing cutting-edge physics research
- To increase students' awareness of careers available in physics research and engineering
- To inspire teachers in their teaching of particle physics.



Introduction

CERN is an inspiring particle research facility that can enhance and enrich a young person's understanding and appreciation of physics. It can ignite a lasting interest in the subject and make students aware of the wide range of careers available in research, engineering and broader physics.

Below are some tips collated from a number of school trips supported by the The Ogden Trust.



Before your trip

- Book your group visit on the CERN visitor website. Aim to book at least three months in advance of your trip. Bookings are now taken up to nine months in advance
- Apply for S'Cool Lab full day session or cloud chamber workshop (limited availability)
- Get in touch with your local university physics department. Many will have students and staff based at CERN who would be happy to come and meet your group and chat to students. When organised this is often a highlight of the trip for students
- Make students aware of how expensive Geneva can be.

What to see and do at CERN

- The Visitor Centre and Microcosm exhibitions have great interactive demonstrations. Be aware that the film showing in the Universe of Particles only shows in English once each hour; check on times when you arrive to ensure your group are not waiting around
- Try and get a morning tour. For A-level groups allow for a full day at CERN to absorb the full experience. For GCSE groups a shorter time is suitable. Some schools choose to do the tour on one day and come back on a second day to walk round the exhibitions. This prevents students from becoming overwhelmed with information
- To eat at the restaurant at CERN in a group you will need to book when booking your tour online. Meals served 11.30am–2.15pm. Be prepared for your booked time to change
- Request an exclusive tour if you have close to 24 students going; you may still get members of public joining you if you have under 24 people
- There can be lots of walking and standing. Encourage your groups to wear sensible comfortable shoes. Flip flops/sandals and heels are not permitted
- Carry your passports. Some groups have required their passports during the CERN tour as it crosses the French border.

S'Cool Lab

S'Cool Lab provides interactive workshops for those visiting CERN. Both options offer an enhanced educational experience for your students and we would recommend applying. They are however heavily oversubscribed, and you may not get a place.

Full Day S'Cool Lab sessions

Applications have to be in by April for the upcoming academic year. You therefore have to plan your trip between nine and twelve months in advance.

Cloud Chamber Workshop – 90mins

A Cloud Chamber Workshop can be applied for after you have booked and confirmed your tour.

More information: scool.web.cern.ch/



Accommodation

Hostel at CERN

Request a booking via the online booking platform after your visit to CERN has been confirmed
smb-dep.web.cern.ch/en/CERN_Housing

Positives

- on site at CERN
- good value for money
- close to airport.

Negatives

- maximum three nights accommodation
- students must be 16+
- you are based further away from central Geneva
- limited options for eating.

YHA Hostel Geneva

Positives

- good affordable food
- adequate dormitory rooms offering good value at 36CHF per person
- located in central Geneva and convenient for sightseeing and transport
- includes free transport card.

Negatives

- hard to book, particularly the leader's rooms
- requires a 50% deposit and needs to be booked nine – twelve months in advance.

Hotels in Geneva

There are many hotel options in Geneva however, even when booking six – twelve months in advance, the cost is high.

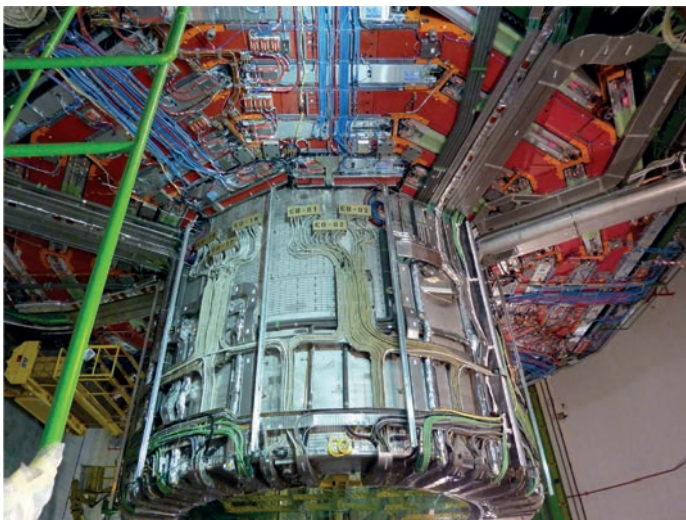
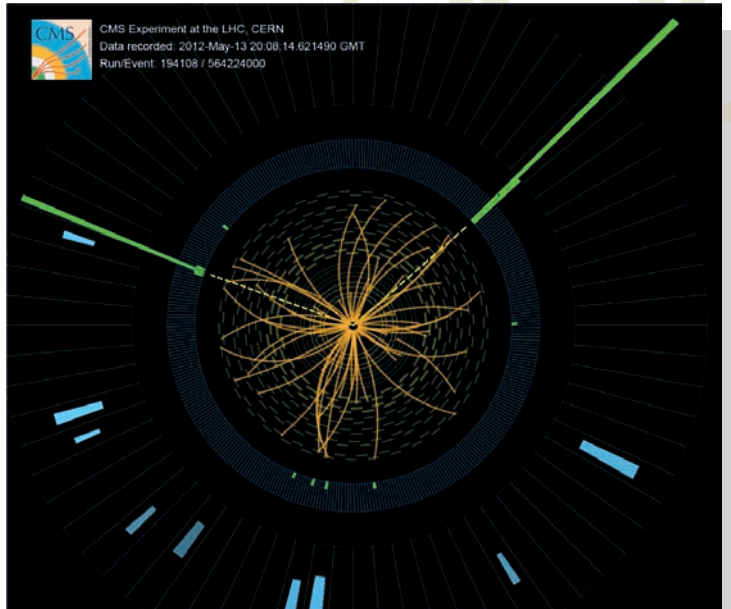
Hotels in France

Positives

- you can find cheaper options

Negatives

- no free public transport (which can outweigh accommodation savings)
- travel is more complicated
- further away from city centre.



Flights and Transport

Flights

All major UK airports fly regularly to Geneva. October to November and April to May are generally when you'll find the cheapest flights to Geneva but you'll still need to book in advance. Flight costs will also depend greatly on which UK airport you are flying from.

Local transport

When staying in Geneva you will receive:

- free transport tickets from airport from the machine valid for 80 minutes
- free travel card from your accommodation for the days you are staying there. This also allows travel on the yellow lake shuttle boats (not the sightseeing boats).

The trams and buses are easy to get around on and generally on time.

Food

When planning your trip you will need to budget for food. As a guide, 'eating out' prices are in the region of 10 - 13 CHF for a McDonalds meal and 15-25 CHF for a pizza. If you want to enjoy traditional fondue, Hotel Edelweiss in central Geneva, offers set menus but expect to spend 35 – 55 CHF. A 500ml fizzy drink will cost you 3.50 CHF.

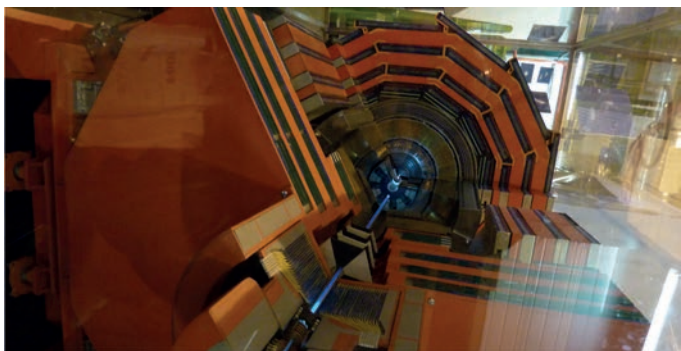


Extending the education and skills of students pre and post trip

Pre-trip

Prepare students with some basic knowledge before the trip. Some of the researchers that run the tours talk quickly through basic information, so it is good to have a solid background in basic particle physics. This should include the Standard Model, electric and magnetic fields and their uses in accelerators.

You could organise a lecture or event at your school or within your Partnership before the trip to engage and enthuse participants.



Post-Trip

There are many options for bringing what you have learnt back into the classroom.

Institute for Research in Schools -
<http://www.researchinschools.org/>

IRIS facilitates real cutting edge scientific research to take place in schools. The CERN@School project provides detectors that can be used in schools to create unique experiments. The Timpix experiment provides data on radiation from the International Space station to analyse. Data from all projects is available to use, analyse and compare to your own results. The projects can be done in student's own time or as part of an afterschool club.

CREST award - www.crestawards.org

Students can complete a project based on their experience and achieve a CREST award.

Running a Primary Science Ambassador scheme

Sharing the knowledge students have learnt with primary school students is a great way for older students to develop their own knowledge and communicate it effectively.

Other considerations

Time of year to visit

June and July will have good weather but can be busier resulting in the hotels being more expensive. CERN host student summer programs and reserve the CERN accommodation for them. There are often free events taking place in Geneva around the lake so this can provide additional low cost activities for your time after your visit to CERN.

March to May and September to November may offer more options of travel and accommodation and allow you to align the trip with the A-level syllabus.

December to February can be very cold and the CERN tour involves walking outside, however if students are prepared for this it can be a cheap and very quiet time to visit.

Racism

Geneva is a safe, clean city that is easy to get around and feels welcoming. However in France, some of our groups have experienced racism towards students.

Medical issues

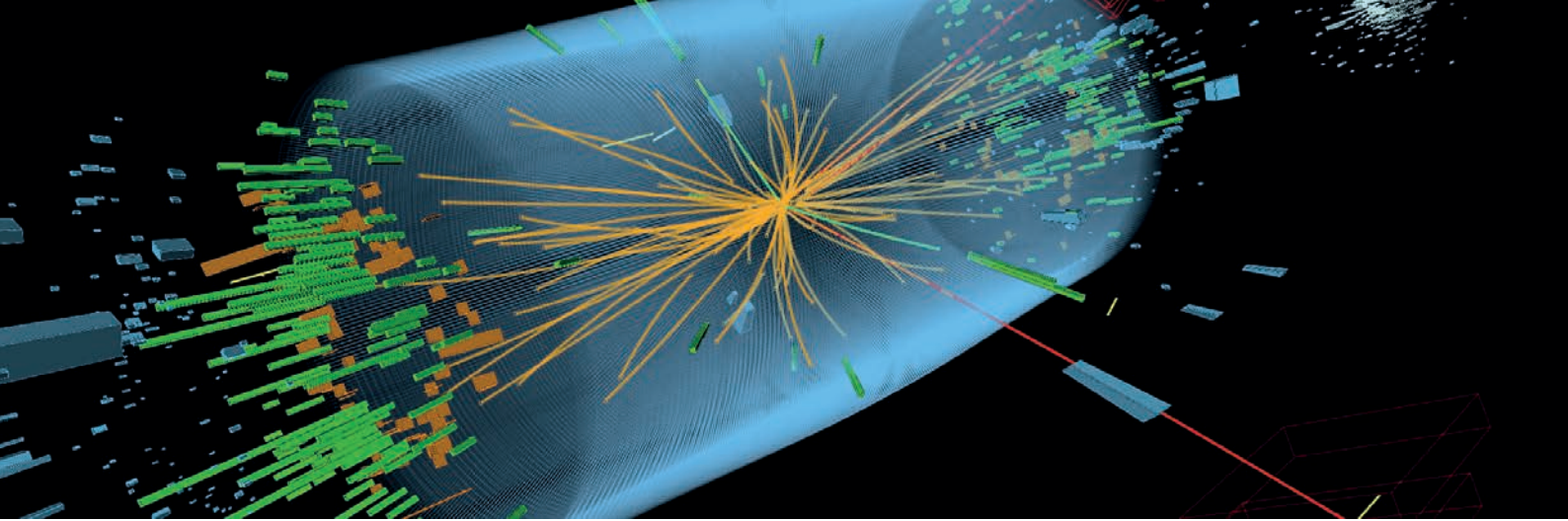
Make sure students have EHIC cards and travel insurance. Although the EHIC card will be accepted in most places, some hospitals will expect an upfront payment for treatment which should then be reimbursed by your travel insurance company.

Safeguarding

CERN tours for groups of less than 24 will be filled with other schools or members of the public.

Other activities in Geneva

- Old Town and Cathedral
- Cruises on lake
- The UN buildings
- The Red Cross Museum
- The Museum of the History of Science



Planning

9 – 12 months
before trip

- Decide on dates and book CERN tour.
- Apply for S’Cool Lab session.
- Advertise and confirm student numbers.
- Book youth hostel accommodation.

3 – 9 months
before trip

- Book flights.
- Complete risk assessment and other required documentation for school.

1 – 3 months
before trip

- Get in touch with your local university physics department. Universities may have students placed at CERN that can arrange to meet and talk with your students.
- Prepare students by introducing the physics concepts relating to particle physics and accelerators.

During CERN visit

- Encourage students to ask questions during tour. Prepare students with some possible questions to ask.
- If guides are pitching information at the incorrect level support learners through additional explanations or by asking the guides to simplify.
- If you have arranged to meet a researcher encourage students to ask questions about their role. If you don’t have this opportunity make students aware of the variety of careers, number of employees on site and other career opportunities that are available.

Back In UK

- Encourage students to extend or share their knowledge. This could be by running a primary school science club lesson, presenting in assembly or taking part in a CREST Award or IRIS project.

