

# CERN, Geneva

Places to visit

*The Large Hadron Collider (pages 1–3) is being built at CERN, the European Centre for Nuclear Research near Geneva. CERN offers some extremely exciting opportunities to see ‘big science’ in action.*

**M**any students from schools and colleges across Europe visit CERN. What is there to see there? MICROCOSM is an excellent interactive museum telling the story of research into particle physics and the equipment used to support this. It is also possible to have tours of various parts of the site, guided by the scientists and engineers involved, and probably including a chance to visit the underground facilities.

In Box 1, Kelly Knight, a year 13 physics student, tells you something of what the experience was like for her on a visit organised by her school to see the Large Hadron Collider and the ATLAS detector. She was a member of a group who won a trip there in a competition organised by the Department of Physics and Astronomy, University of Birmingham.

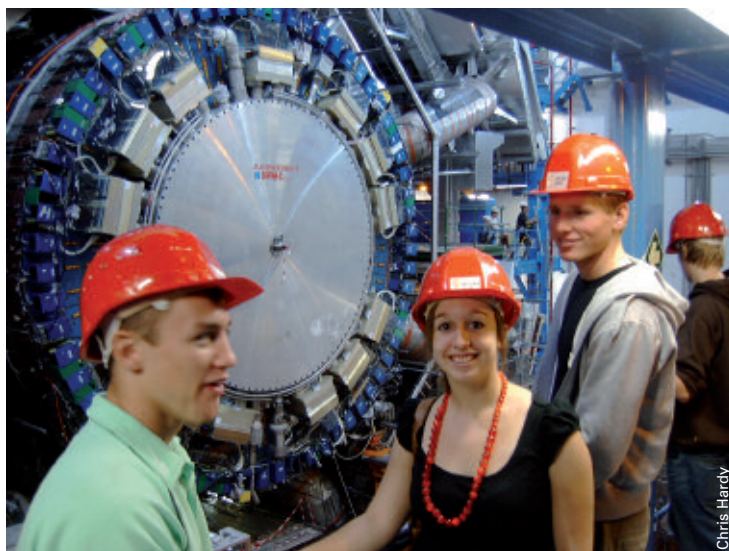
School tours at CERN are free. It is also possible for individuals to go on free tours, although these have to be booked some way ahead.

## Box 1 Kelly’s visit to CERN

On the first day of our visit, we had the opportunity to see the ATLAS detector we had heard so much about. Located in the centre of a large building, like an aircraft hanger, was a 100 m deep pit, lined with white concrete, at the bottom of which stood ATLAS.

Wearing hard hats, as the detector was still under construction, we travelled down in the mine-shaft style lift to the cavern at the bottom of the pit. Any descriptions you hear, or pictures you see, of the machine found there, cannot accurately represent the scale of it; it is huge. Later that day, dressed in lab coats and hairnets — yes hairnets — we were allowed to see a small segment of the detector being built in more detail. Around the shell of the pixel detector were rows and rows of intricately positioned wires and connectors, worth hundreds of thousands of pounds. Even if you had no interest in science at all, you would be impressed by the sheer feat of engineering required to build something so complex.

Later on in the trip, we visited the computing centre, where the data from the LHC will be



Chris Hardy

## Box 2 Visiting information

If you want to set up a visit to CERN check out the following site: <http://visits.web.cern.ch/visits/english/practical.html>

It provides links to the CERN site and to pages with information for teachers organising a visit. It also includes a description of MICROCOSM.

*Students from King Charles I School, Kidderminster, visiting the ATLAS detector in September 2006. You can just see the toroid magnets (see page 1), but the large space between them has now been filled with various components of the detector*



Nigel Collins

*Kelly (middle) with other students, wearing lab coats and hair nets, in one of the clean rooms at CERN*

processed. Literally thousands of computers, in uniform rows, provided computing power to all of CERN. This really put into perspective the volume of information that will be produced by the project. CERN is definitely something you need to see to believe and is well worth a visit if you ever get the opportunity.