

 **pen up your mind!**
CERN openlab student programme

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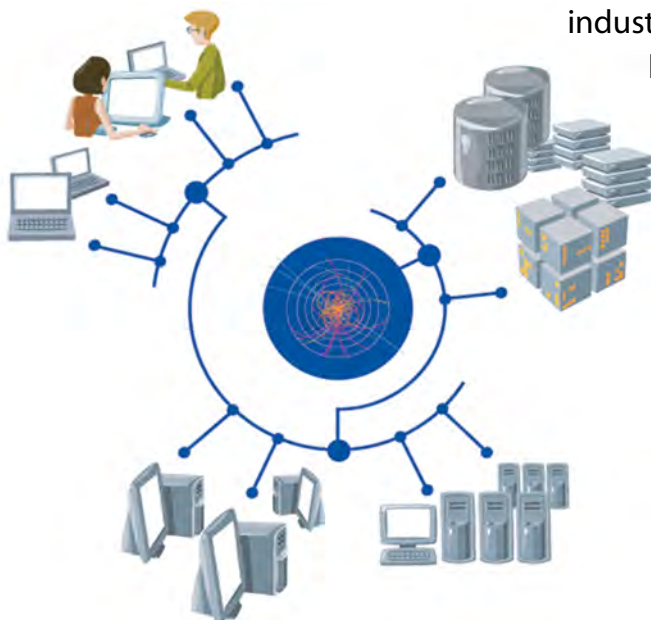
CERN is where the World Wide Web was born...
...and where you can be part of the next IT revolution: the Grid!

The Web provides seamless access to information around the world. The Grid will provide seamless access to globally distributed processing power and data storage capacity.

CERN needs the Grid to solve the huge data challenge of the Large Hadron Collider, which will produce millions of gigabytes of data each year. Just like the Web, the Grid is bound to have practical applications well beyond the realms of high energy physics - in medicine, commerce, finance and much more.

By joining the CERN openlab student programme, you will work with some of the latest hardware and software technologies for the Grid at CERN, and see how advanced IT solutions are used in high energy physics.

You will also hear about how CERN's industrial partners are developing Grid technology for industrial and commercial purposes, through external lab visits and special invited talks.

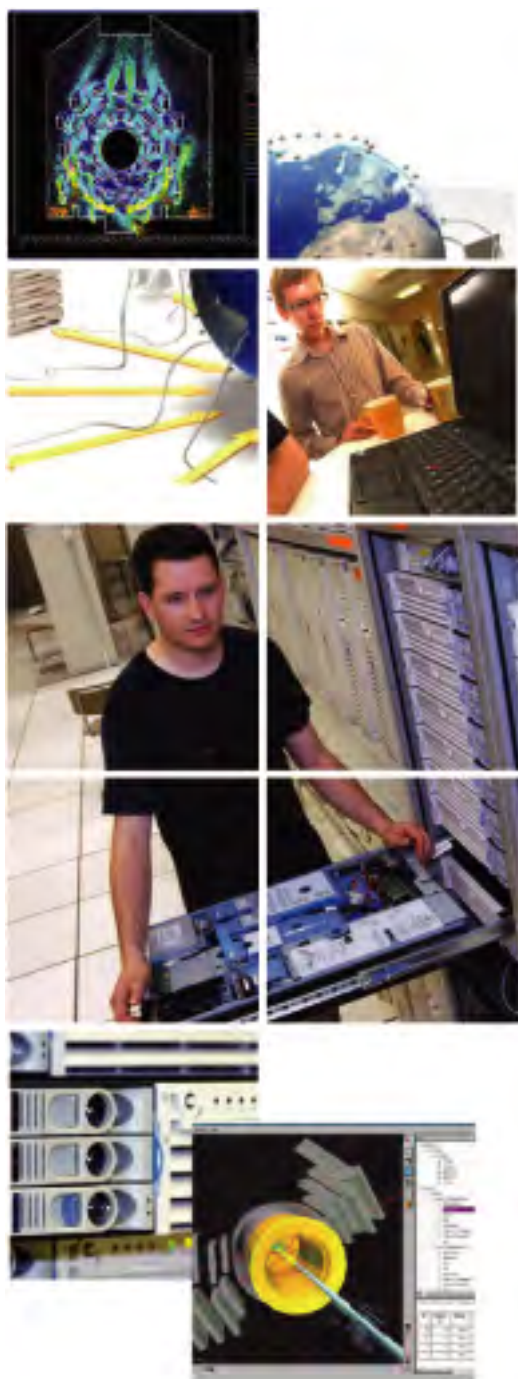


The CERN openlab student programme is much more than just a summer at CERN. It can lead to follow-on projects in your home institute at the bachelors, masters or Ph.D. level. It may even inspire you to become an entrepreneur in the emerging Grid business.

Open up your mind...and apply.

www.cern.ch/openlab

CERN openlab student programme



WHO SHOULD APPLY?

B.Sc. , M.Sc., or Ph.D. students in Computer Science or Physics, interested in working on cutting edge Grid technology projects for two months during the period June-September 2008, with the possibility of follow-on projects in their home institutes.

HOW TO JOIN

Candidates for the CERN openlab student programme are normally proposed by University supervisors. A CV of the student, recommendation of the supervisor, and indication of preferred area of work should be sent to sverre.jarp@cern.ch by March 31st 2007. Confirmation of student placement will be made to supervisors shortly thereafter.

STIPEND

The stipend for a two-month study is 5000CHF for travel, accommodation and per diem, normally sponsored 50% by student home institute and 50% by CERN and the industrial partners of CERN openlab. Students must have their own insurance.

STUDENT PROJECTS

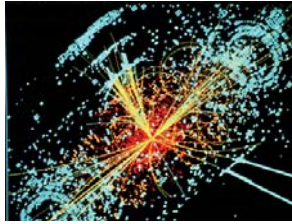
Several projects and groups at CERN participate in the openlab student programme, including the LCG (LHC Computing Grid), EGEE (Enabling Grids for E-Science) and several other EU-funded projects. Examples of projects that students undertook as part of the 2007 programme include:

- Platform virtualization in a Grid environment.
- Compiler optimization.
- Grid monitoring messaging system.
- Database Access Management framework extension.
- Lightweight GUI for LHC data location.
- Server power measurements in the CERN computer centre.

OTHER ACTIVITIES

A Grid tutorial, a series of lectures by experts in various domains of Grid computing, and study tours to industrial labs are part of the programme. The openlab students may participate in a wide range of physics and technology lectures that are part of the general CERN summer student programme.





pen up your mind!

CERN openlab Student Programme

CERN is where the World Wide Web was born 20 years ago...
... And where dizzying challenges in networking, data processing and storage abound!

Located just outside Geneva and straddling the border between Switzerland and France, CERN is the world's leading particle physics research institute. CERN explores what matter is made of and what holds it together by accelerating protons to a fraction under the speed of light and then smashing them together. The Large Hadron Collider (LHC) will start generating some 15 million gigabytes of data per year this summer.

Through close collaboration with leading industrial partners, CERN acquires early access to technology well before it reaches the general computing market. CERN openlab is the framework for evaluating and integrating cutting-edge IT technologies and services. Together with our partners, HP, Intel, Oracle and Siemens, we are working on:

- Computer Server Platforms and Related Software
- Relational Databases
- Network Monitoring Software
- Automation and Controls Software
- Grid Middleware

By joining the CERN openlab student programme, you will work with some of the latest hardware and software technologies and see how advanced IT solutions are used in High Energy Physics.

You will also become acquainted with other key technologies for industrial and commercial purposes, through external visits and special invited talks.

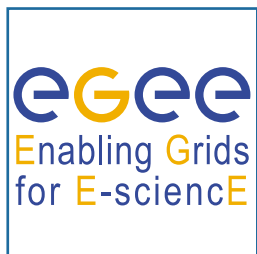
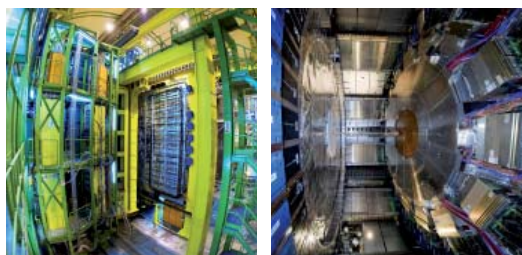
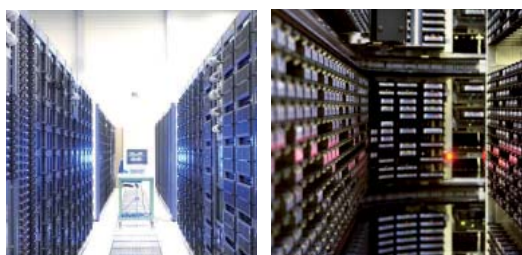
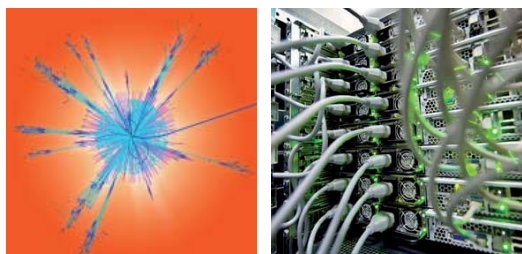
The CERN openlab Summer Student Programme is much more than just a summer at CERN. It can lead to follow-on projects in your home institute at bachelor, master or Ph.D level. It may even inspire you to become an entrepreneur in cutting-edge computing technologies.

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CERN openlab Student Programme 2009



Who should apply?

B.Sc., M.Sc., or Ph.D. students in Computer Science or Physics, interested in working on cutting edge technology projects for two months during the period June-September 2009, with the possibility of follow-on projects in their home institutes.

How to join?

Candidates for the CERN openlab Student Programme are normally proposed by University supervisors. The student's CV, a recommendation by the supervisor, and an indication of the preferred area of work should be sent to sverre.jarp@cern.ch by 31st March 2009. Confirmation of student placement will be made to supervisors shortly thereafter.

Stipend

The stipend for a two-month study is 5000CHF for travel, accomodation and per diem, normally sponsored 50% by the student's home institute or university and 50% by CERN and the CERN openlab industrial partners of CERN. Students must have their own health insurance.

Students projects

Several projects and groups at CERN participate in the openlab student programme, including the WLCG (Worldwide LHC Computing Grid), EGEE (Enabling Grids for E-Science). Examples of projects that students undertook in 2008 include:

- Database virtualisation
- Benchmarking state-of-the-art hardware
- Multithreaded software solutions
- Long distance replication of data between Grid sites
- Investigation of efficient network packet filters
- Testing of performance monitoring software

Other activities

A series of lectures by experts in various domains of High Throughput Computing, and study tours to universities and CERN facilities are part of the programme. The openlab students may also participate in a wide range of physics and technology lectures that are part of the general CERN summer student programme.