

## Sweden to host a new neutron source



An artist's impression of what the ESS should look like in 2019.

**A**t the southern end of Sweden, a town called Lund is preparing for the arrival of the world's most powerful neutron source: the European Spallation Source (ESS). Construction is scheduled to start at the beginning of next year, and the facility is expected to become operational by 2019, when it will produce its first neutron beams.

**The first European neutron source, currently under development, should commence operations by the end of this decade. Its aim: to produce beams of neutrons that can penetrate into the heart of matter without damaging it and reveal its secrets.**

"The ESS is the result of an idea that began 20 years ago!" underlines Mats Lindroos, in charge of the ESS Accelerator Division. "Today, 17 European countries support the project, including Sweden, Denmark and Norway, who together account for 50% of the construction funding."

(Continued on page 2)



### A word from the DG

#### CERN on show

**L**ast week I was in Ankara to discuss Turkish accession to CERN, and to take part in the opening of CERN's main travelling exhibition at the Middle East Technical University. I was astonished at the crowds of people the exhibition drew in, and I'm told that it's a similar story wherever it goes. Our smaller exhibition stands are also much in demand across our Member States.

You don't have to travel to Ankara, however, to experience the same phenomenon – just go to Building 33 any time from Monday to Saturday and you'll get the idea. But although we've worked hard over recent years to increase our capacity for visits to a level approaching 80,000 per year,

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## A word from the DG

(Continued from page 1)

### CERN on show

**there's still a long waiting list. And that's a problem.**

**The success of the Visits Service rests on the goodwill of all the *CERNois* who volunteer to be guides, as well as those who graciously allow increasing numbers of visitors into their workplaces. Our guides do a fantastic job of explaining CERN's work in clear language, and they are all trained in terms of safety for the places they take people.**

**Problems can arise when people who are put off by our 4-6 month waiting list come in through the side door, via people they know who work here. On many occasions last year, that led to serious overcrowding at visit locations, degrading the experience for everyone. Large numbers of people also have a nuisance effect on people working, eroding the goodwill we rely on, and it leads to direct competition with the official Visits Service for resources such as transport.**

**What can we do about it? The best way forward for anyone who wants to help show CERN to the world is to become a guide and thereby help the Visits Service drive capacity higher. This kind of work is an important part of CERN's mission, and for CERN staff is recognised as such by the Organization's hierarchy. Of course, I don't want to outlaw private visits: it's normal that *CERNois* should wish to show their workplace to friends and family, but the bottom line is that it is essential for the vast majority of visits to be organized by the Visits Service. Those that can't should be coordinated with the Visits Service to ensure that every single one of our visitors leaves with the best possible impression of CERN.**

**To sign up as a guide, contact visits.service@cern.ch**

**Rolf Heuer**

## Sweden to host a new neutron source

(Continued from page 1)

The ESS, whose design is also the result of international cooperation, benefits from the expertise and skills of major European research centres. "CERN is participating in the development of the entire accelerator part," explains Christine Darve, the engineer responsible for the cryomodule portion. "For the ESS target, which will be made of tungsten, we are cooperating above all with nuclear physics experts."

The ESS will operate at a power of 5 MW and may reach higher powers in the future. "Currently there are two main neutron sources in the world: the SNS in the United States, with its negatively charged hydrogen ion beams operating at 1.4 MW, and J-PARC in Japan, with its proton beams operating at 1 MW," explains Christine Darve. "ISIS in the UK also allows for measurements to be taken, but at lower energies."

With their neutral charge, neutrons are an ideal tool for probing into the heart of matter and understanding its structure without changing it. "There is a wide field of application," observes Christine Darve. "The possibilities offered by ESS are numerous and include medicine, the analysis of certain proteins, nanotechnology, the development of new materials, and archaeology, to

understand how different objects are created." (Visit the Laue-Langevin Institute and *Société française de neutronique* websites for more information).

22 types of neutron beams, depending on the specific needs of the experiments, will be at the disposal of 6,000 potential users. As with ISOLDE and the other beam lines at CERN, beam time will be leased. "Cold neutron beams (with long wavelengths) and thermal neutron beams (with short and medium wavelengths) will be available to users," says Christine Darve. "These users will be from both academic and industrial fields."

A further advantage is that another advanced facility is currently under construction on the same site as the ESS: MAX IV, a high-luminosity synchrotron radiation source financed by Sweden. That should please the most demanding customers, giving them the possibility of submitting their materials to very advanced and complementary studies within a radius of just a few kilometres.

ESS is now hiring! For more information, go to:

<http://ess-scandinavia.eu/getinvolved>

Anais Schaeffer

## LHC Report: Intensity ramp-up

**T**he next couple of days saw fills with 47, 84 and 264 bunches per beam and on Sunday, 8 April the move was made to 624 bunches. With the squeeze to 60 cm in place, 624 bunches with reasonably high bunch intensities of around  $1.3$  to  $1.4 \times 10^{11}$  protons per bunch have already yielded respectable peak luminosities of up to  $2.5 \times 10^{33} \text{ cm}^{-2} \text{ s}^{-1}$ . Following a lot of hard work during the Christmas technical stop, machine availability is very good at the moment.

The ramp-up in the number of bunches is accompanied by a series of checks aimed to make sure the machine protection systems and operational procedures are in a good enough shape to safely deal with the beam intensity. 624 bunches at 4 TeV

**The first stable beams at 4 TeV were declared on Thursday, 5 April with 3 bunches per beam. This marked the start of the intensity ramp-up, which aims to get back up to 1380 bunches per beam as quickly as is safely possible.**

already represents an energy over 50 MJ and serious damage potential.

The next few days should see a steady increase to 840, 1092 and finally 1380 bunches per beam as the operations team commissions high intensity operation in preparation for some sustained production running. The schedule includes a 7-week running period for physics. This is preceded by a 3-day machine development period and a 5-day technical stop starting on Friday, 20 April.

Mike Lamont for the LHC Team

# Optimizing accelerator technology

**A**s one of the largest Marie Curie Initial Training Networks ever funded by the EU – to the tune of €6 million – oPAC

extends well beyond the particle physics community. “Accelerator physics has become integral to research in almost every scientific discipline – be it biology and life science, medicine, geology and material science, or fundamental physics,” explains Carsten P. Welsch, oPAC co-ordinator based at the University of Liverpool. “By optimizing

**A new EU-funded research and training network, oPAC, is bringing together 22 universities, research centres and industry partners to optimize particle accelerator technology. CERN is one of the network’s main partners and will host 5 early-stage researchers in the BE department.**

the operation of accelerators, all of these research areas will benefit.”

oPAC will be sponsoring 22 early-stage researchers to investigate, among other things, charged particle beam dynamics, beam diagnostics and accelerator control systems. By combining an understanding

of these different fields, the researchers will gain a broader knowledge of how accelerators work and thus how best to improve accelerator performance.

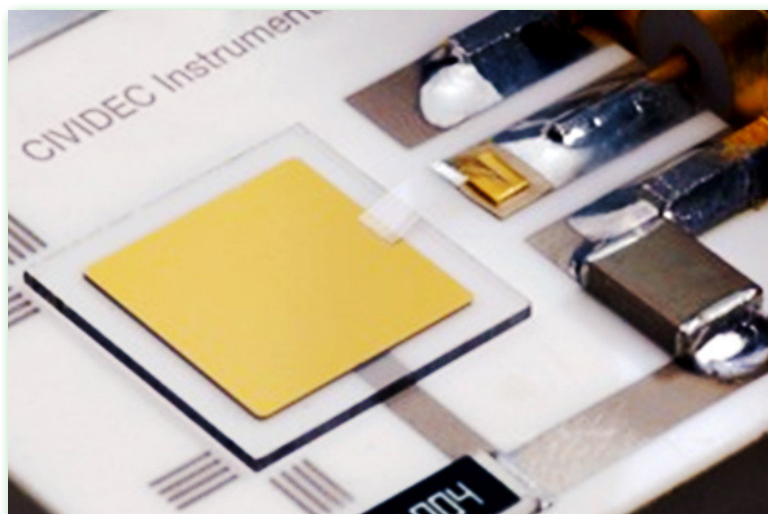
“Along with providing exceptional training opportunities, it is the diversity of research projects that makes the oPAC network so unique,” says Carsten. While many of the projects will have generic applications for all accelerators, some will examine specific accelerator issues. For example, the network’s CERN-based researchers will be looking to optimize the performance of LINAC4 and ELENA, and will also be examining the Hi-Lumi LHC and LHeC upgrade scenarios. At the University of Seville, an oPAC project will bring together physicists and medical researchers to improve accelerator-based imaging techniques used to monitor cancer therapy.

oPAC is still looking to fill its 22 research positions and is currently accepting applications. Researchers with exceptional academic backgrounds are encouraged to submit their applications before 31 May at:

**<http://www.liv.ac.uk/opac/>**

For further information visit the oPAC website or contact Carsten Welsch ([c.p.welsch@liv.ac.uk](mailto:c.p.welsch@liv.ac.uk)).

*Katarina Anthony*



*A diamond detector that will be used for novel beam diagnostics applications in the oPAC project based at CIVIDEC. (Image courtesy of CIVIDEC.)*



# Virtual visits and Hangouts – how cool is CERN...

It was an old-fashioned aeroplane which took Kate Shaw of the Udine ICTP (Italy) ATLAS group to give a particle physics master class to about 20 students from Al-Quds University in the Palestinian West Bank, but it was via the ether that they were able to take a virtual visit of the ATLAS control room on 2 April. Without having to deal with the complications of international air travel, they were able to see the experts, monitors and screens via two remote controlled cameras mounted on the ceiling of the ATLAS control room. By the door there is another screen, where Steve Goldfarb, one of ATLAS' outreach co-coordinators who hosted the virtual visit, and Sue Cheatham, a post-doc at McGill University in Canada and part of the ATLAS trigger team, were able to see the students at Al-Quds and chat to them about particle physics experiments via hand-held microphones.

"We started doing these visits on an ad hoc basis about a year ago," explains Steve, "and we've given tours to schools and universities from Japan, Australia and India; on Wednesday it was Greece. It's so great to be able to connect with people who wouldn't otherwise be able to get here." The ATLAS team is now hoping to open up the offer to more virtual visitors. "Anybody is welcome,"

**New media are really making the world smaller. Using a simple lap-top and Vido® or Google Hangouts, you can visit experiments' control rooms and ask physicists those questions you always wanted to ask, all from the comfort of your own home. Here's how a few people connected with CERN recently.**

he says, "and all you need is a laptop." There's more information on how to sign up on the ATLAS Virtual Visits website.

For its part, the CMS experiment is using Google+ Hangouts (essentially a video chat with up to 10 participants) to make virtual contact with the public. The most recent CMS Hangout on 4 April, moderated by CMS physicist Vasundhara Chetluru at Fermilab, connected a school in Brazil and three interested individuals with Dave Barney at CMS, Steve Goldfarb at ATLAS and Mirko Pojer in the CERN Control Centre. "This was a special 'on-air Hangout' because it was broadcast live so anyone in the world could view it," explains Achintya Rao of the CMS communication team.

The initiative was much appreciated by the participants. "I loved how the scientists answered the questions. It was easy to understand, yet there were many things that I didn't know and now want to learn more about. Plus they were really funny!" said a young participant. And a teacher who participated in a previous CMS Hangout confirmed: "My students were excited to

interact with an actual physicist at CERN and they learned a lot from the experience. We appreciate you taking the time to "hangout" with us. It was a great experience that I'm sure my students will never forget."

Over 6,000 people have CMS' Google+ page in their circles, meaning they see every CMS post. "Our first Hangout in February was featured on the Google+ homepage, so that attracted a lot of people," explains Achintya. And he confirms: "It's a great way of sharing our enthusiasm for physics with people outside CERN."

*Joannah Caborn Wengler*



*Students from the Al-Quds University in the Palestinian West Bank participating in the ATLAS virtual visit.*

# Beware, after the 11<sup>th</sup> time you might be addicted!

**T**his year the Medical Service is organising a campaign called "Move ! & eat better" which will include a whole series of measures and activities. For those of you frustrated with your morning commute to work, hopping on your bicycle can really get your day off to a good start. Linked with "Bouger + & manger mieux / Move ! & eat better", CERN will participate in the Swiss national "Bike to Work" event, in which teams of 4 colleagues encourage each other to cycle to work at least every other day throughout the month of June.

There are 21 working days in June, so just 11 bicycle days will be enough to take part. However, having done 11, there's a good chance you'll go for the 12<sup>th</sup> ride, and more! As CERN is already collectively taking part in "Bike to Work", signing up a team is straightforward: simply get together with 3 colleagues and register the team before 31 May. There are no costs for the individual teams, there is no minimum distance and

**Most addictions are bad for you, but there are exceptions to everything: during the month of June, as part of the "Move ! & eat better" campaign, you are all encouraged to get your bicycles out of the shed and ride them to work at CERN. But beware, even after only 11 times, you may never return to your former means of transport – cycling is addictive and provides you with the inspiration you need for the rest of the day!**

parts of the journey can be done using public transport. There is even an opening for non-cyclists: 1 member per team can participate as a pedestrian, skateboarder or using any other means of transport as long as it does not have an engine.

You might have noticed that there is already another Bike2Work initiative at CERN. The campaigns are complementary; participating in one does not imply that you cannot sign up for the other - on the contrary! However, if you can't find 3 team mates, you can still join the individual competition that began on 1 March and will last all year long.

There are obviously risks related to the use of bicycles, and everybody is responsible for reducing those risks, be they pedestrians, cyclists or car drivers. For those who are

not regular bike users, you have until June to acquire the standard safety equipment. Moreover, the HSE Unit is on hand to advise you and to increase your awareness about safety. Please remember that the route you usually take by car is not necessarily the shortest and safest route when you are cycling. Bicycle maps can be picked up from the Library, the Medical Service and the Reception.

On a practical note, the fear of streaming with perspiration upon arrival is no excuse: there are shower facilities for men and women in the Pump Hall, Building 216.

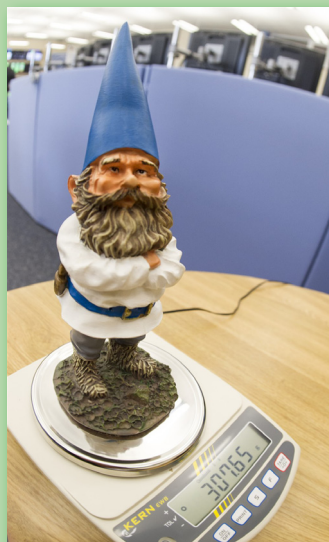
As if this was not enough, there are also prizes to be won... (<http://www.biketowork.ch/fr/gagner.html>)

Keep an eye on the Bike2Work website for more details and updates!

[http://ylevinse.web.cern.ch/ylevinse/bike\\_to\\_work/](http://ylevinse.web.cern.ch/ylevinse/bike_to_work/)

*Jens Vigen, Bike2Work coordinator for CERN*

## Gnome-trotting at CERN



Last week, the globe-trotting gnome from a company called KERN paid a visit to CERN. The Gnome Experiment is investigating the variances in gravity around the world. The gnome has so far been weighed in several places around the world. The results of the measurements are available on the Gnome Experiment website (<http://gnomeexperiment.com/>). To find out more about the globe-trotting gnome, see the Quantum Diaries blog.

*CERN Bulletin*

# Ombudspersons gather at CERN

**V**incent Vuillemin, former Head of the EN department, was appointed as CERN's first "Ombuds" in June 2010. The Ombuds

is one of the first people who can be consulted when it has not proved possible to resolve a potential interpersonal conflict amicably or with the assistance of the competent hierarchy. "My counterparts from the other international organisations come from different backgrounds to me, mainly from Human Resources," explains

**On 30 March, Vincent Vuillemin, CERN's Ombuds, welcomed twelve of his counterparts from Geneva-based international organisations. The guests enjoyed the visit and asked him to arrange another visit in a year or so, when they will be able to visit the LHC underground experimental areas.**

Vincent Vuillemin. "It was quite an experience for them to witness the magnitude of the LHC project when they visited the SM18 hall and the ATLAS Visitor Centre. They were extremely curious to understand how matter came into being. They really enjoyed the film in the Globe describing the first moments after the Big Bang."



*Group photo in the Main Building.*

The Ombuds of the Geneva-based international organisations that are members of the United Nations And Related Organizations (UNARIO) network meet once a month to share their experience. "Ombudspersons must ensure complete confidentiality in their profession. When we meet we discuss situations that might give rise to the same issues in the other organisations, but this in no way breaks the rules of confidentiality," explains Vincent.

The monthly meetings are usually held in the area near the UN known as the "quartier international", and this was the first time that the Ombudspersons had paid a collective visit to CERN. "The visit was an opportunity for me to tell the guests about CERN's various missions in research, education and innovation," confirms Vincent. "The visitors really appreciated the initiative and asked me to arrange another visit next year, when the underground areas will be open."

The messages that the guests left in Vincent's mailbox after the visit confirmed the success of the initiative. "It's been a fantastic learning experience," says the WIPO Ombudsperson, Elisabeth Merz. Elena Dumitru, Ombudsperson at the United Nations, agrees: "Let me join everyone in thanking you very much for the fantastic visit of CERN you organised for us. I felt privileged to be there. I can even say that my knowledge in this field has improved as, until Friday, physics and Chinese were on the same level for me." And Donna Douglas Williams from WHO concludes: "Many thanks for hosting such a phenomenal meeting and tour of the CERN facilities. I was never a science buff, but I feel so much smarter after learning so much from you and your colleagues!"

*CERN Bulletin*



# CERN hosts Physics and Society Forum

"The forums began back in 2006, as a special closing event for the 2005 World Year of Physics," explains Martial Ducloy, former President of the French Physical Society and Chair of the EPS Forum Physics and Society. "We decided to keep the sessions going, as they gave physicists a venue to discuss the non-scientific issues that influence their daily work. As the world's largest international physics laboratory – and the venue for this year's EPS Council – CERN seemed the ideal place to host this year's forum."

The forum at CERN saw talks by a diverse group of physicists and scientists, many of

**On 28-29 March, CERN hosted the fifth edition of the European Physical Society's "Physics and Society" forum. The forum addresses the role of physicists in general society – be they in education, politics, industry or communication. This year, attendees looked at how physicists have adapted - and can continue to adapt - to work in the economic marketplace.**

whom had made a change of career. For example, former CERNois Mariano Gago discussed his role as the Portuguese Minister of Science and Technology, while entrepreneur Jacques Schmitt described the paradigm shift scientists face when moving into industry. Overall, the sessions demonstrated the variety of ways in which physicists can play important roles outside the pure research field, while also emphasising the new issues physicists face once outside their field.

The forum discussions are to be brought into a single report, which will be presented to the EPS President and committee later this year. "This report will also be given out to the various physical societies that make up the EPS," says Martial. "In previous years, we have also sent it out to relevant government bodies. For example, when the forum addressed physics education, the report was presented to education ministers across Europe."

For more information about the Physics and Society Forum – and to see slides from the presentations given this year – visit the Forum website at:

<http://fps.epscommittees.org/>

Katarina Anthony



Computer Security  
*Sécurité informatique*

## Data Protection for All

Indeed, respondents were completely correct that opening letters addressed to others

and scanning such letters violates basic privacy rules. Also, giving your photo, address, computing accounts, personal files and documents to a third party – especially an external party – is a NO-NO, as CERN considers some of this data to be personal. For example, your CERN mailbox and your "private" folders on AFS and DFS are 100% yours. Neither your supervisor, the AFS/DFS/mail service administrators nor the Computer Security Team have any right to access this data. Strict procedures have been established for the rare cases where such access is necessary, and these require the approval of the CERN Chief Information Officer (CIO), the Legal Service and the DG.

But did you know that CERN is currently developing a data protection policy and the role of an appointed CIO (currently assumed by a combination of the head

**What a stir... was caused by two articles in the last issue of the Bulletin, on "New Snail Mail Scanning Service" and "CERN meets Facebook"!**

of the IT department and the Computer Security Officer)? Apart from Administrative Circular No. 10, data protection currently relies on the awareness and care of the individual. Not one of your problems? Indeed, CERN thrives on an open culture, so it is tempting to assume "we have nothing to hide". Losing physics data might be a nuisance, but is that all? There are also your personal files, mailbox, financial and contractual data, confidential notes and minutes, passwords and credentials, and your medical records. These have to be protected in a consistent and clear way!

So we are set for change. In collaboration with the Legal Service and the GS, HR and IT departments, the computer security team is drafting a comprehensive data protection policy for storing, accessing and transferring data. Currently, the focus is on the proper definition of classification levels, i.e. "public",

"internal", "restricted" and "sensitive", and an exhaustive list of examples for each level (see <https://security.web.cern.ch/security/rules/en/dcp.shtml>). This policy will be supplemented by policies on data storage, transfer and access. The list of examples will help to clarify classification and avoid incorrect classification within a data store. Finally, the data protection policy includes a policy on data destruction that has already been deployed (see <https://security.web.cern.ch/security/rules/en/ddp.shtml>; see also our article in the Bulletin 10-11/2012).

However, the best way to protect data is still by being conscious and cautious! If you think some documents, files or data should be protected, make sure that they are. We are ready to help you with that.

For further information, check our web site (<https://security.web.cern.ch/security/home/en/index.shtml>) or contact us at [Computer.Security@cern.ch](mailto:Computer.Security@cern.ch).

Computer Security Team

# You need never be lost for words again – Oxford Reference Online and Oxford Dictionaries Pro

It includes a wide range of monolingual and bilingual dictionaries, but also subject-specific reference books on physics, astronomy or mathematics. All these works are fully indexed and cross-searchable.

Two highlights from this vast collection of reference works are the Concise Oxford English Dictionary and the Oxford Dictionary of English, which is the online counterpart of the compact, single-volume dictionary of current English language.

**Whether you are looking for an English word definition or want to check the correct usage of a word, we can offer you a solution: Oxford Reference Online.**

As the name says, Oxford Dictionaries Pro focuses on language dictionaries. Particularly noteworthy are the dictionaries for writers and editors. On a dedicated web page (<http://english.oxforddictionaries.com/writersandeditors>) you will find access to:

- *The "New Hart's Rules", providing information on all aspects of writing and preparing copy for publication, whether in print or electronically*
- *The New Oxford Dictionary for Writers and Editors*
- *The New Oxford Dictionary for Scientific Writers and Editors.*

What about French dictionaries? The Grand Robert is available at [http://library.web.cern.ch/library/Library/dictionaries\\_and\\_encyclopedias.html](http://library.web.cern.ch/library/Library/dictionaries_and_encyclopedias.html).

So no excuse anymore for misspelling a word, be it in French or in English!

The full list of dictionaries is available at <http://gr.bvdep.com/>.

If you have any comments or questions - please contact us at [library.desk@cern.ch](mailto:library.desk@cern.ch).

CERN Library



## Take note

### HELP THE PLANET BY SORTING YOUR WASTE!

Paper and cardboard waste comes in various forms, from newspapers to the toughest cardboard. Every year CERN dispatches about 200 tonnes of paper and cardboard to a recycling plant, but this is still too little when you take into consideration the tonnes of paper and cardboard that are still thrown out as part of ordinary rubbish or are incorrectly sorted into other rubbish skips.

Each office is equipped with a wastepaper bin, and a paper and cardboard container is available near every building. Cardboard boxes should be folded before they are placed in the containers in order to save space.

#### Please note:

Here are some sobering statistics:

- 2 to 3 tonnes of wood pulp are required to manufacture 1 tonne of paper.
- Each tonne of recycled paper means that we can save approximately 15 trees and substantial amounts of the water that is needed to extract cellulose (60 litres of water per kilo of paper).



- A production of 100% recycled paper represents a 90% saving in water.
- 5000 kWh of energy are needed to dry one tonne of paper compared with 2500 kWh for a tonne of recycled paper.

#### For information:

Recycled paper and cardboard fibres are called recycled cellulose fibres (RCF). They currently account for approximately half of the new paper and cardboard produced throughout the world!

If you need to dispose of large quantities of paper and cardboard, just call 77777 to request delivery of a 6.5 cubic metre skip with a cover.

**Many thanks for your cooperation!**

**Help the planet by sorting your waste!**

GS-IS Group

### AMFIE INFORMATION MEETINGS

Meetings open to all members of personnel (users, staff, etc) as well as retired staff.

**Public presentation with question/answer session, Wednesday 18 April 2012, from 12:00 to 13:00, in room 40-2-A01.**

**Private consultations on appointment, Wednesday 18 April 2012, from 10:00 to 11:30 and from 14:00 to 17:30, in room 5-5-028**

AMFIE is a cooperative society open exclusively to international civil servants. It is managed by a group of active and retired international civil servants. Created in 1990 as a fully licensed financial institution, it is subject to the laws and regulations which govern the activities of Luxembourg's financial sector. The Cooperative offers its members a broad range of financial services and products at little or no cost in the six currencies available to account holders (EUR, CHF, GBP, USD, CAD, AUD).

More information:

<http://indico.cern.ch/conferenceDisplay.py?confId=184151>

HR Department  
Tel. 74125





## Language training

### FRENCH COURSES

#### General and Professional French Courses

The next session will take place from 2nd May to 6th July 2012.

These courses are open to all persons working on the CERN site, and to their spouses.

For registration and further information on the courses, please consult our Web pages (<http://hr-training.web.cern.ch/hr-training/>) or contact Kerstin Fuhrmeister.

#### Oral Expression

This course is aimed for students with a good knowledge of French who want to enhance their speaking skills.

Speaking activities will include discussions, meeting simulations, role-plays etc.

Suitable candidates should contact Kerstin Fuhrmeister (70896) in order to arrange an appointment for a test.

The next session will take place from 2nd May to 6th July 2012.

#### Writing professional documents in French

These courses are designed for non-French speakers with a very good standard of spoken French.

Suitable candidates should contact Kerstin Fuhrmeister (70896) in order to arrange an appointment for a test.

The next session will take place from 2nd May to 6th July 2012.

*Département HR*



## Academic training

**19 and 20 April 2012**

ACADEMIC TRAINING LECTURE  
Regular Programme

from 11:00 to 12:00 - Bldg. 4-3-006 - TH  
(Conference Room)

#### AMS\_02 Particle Physics Detector Technologies Orbiting the Earth

by Corrado Gargiulo / CERN

AMS-02 has taken the high performance technologies used in particle physics and implemented them for use in low Earth orbit. Safety aspects for the Space Shuttle flight, that carried AMS\_02 to the International Space Station, Space environment and inaccessibility during the life of AMS\_02 are some of the aspects which have driven the design of the experiment. The technical challenges to build such a detector have been surmounted through the close collaboration amongst the AMS scientists and industries around the world. Their efforts have resulted in the development of new technologies and higher standards of precision.

**25, 26 and 27 April 2012**

ACADEMIC TRAINING LECTURE  
Regular Programme

from 11:00 to 12:00 - Main Auditorium,  
Bldg. 500

#### Ultra-High Energy Cosmic Rays

by Maria Teresa Dova / Universidad  
Nacional de la Plata, Argentina

The origin of the highest energy cosmic rays (UHECR) with energies above 1000 TeV, is still unknown. The discovery of their sources will reveal the engines of the most energetic astrophysical accelerators in the universe. In these lectures we present the recent observational results from HiRes, Telescope Array and Pierre Auger Observatory as well as (some of) the possible astrophysical origins of UHECR. These experiments deal with particle interactions at energies orders of magnitude higher than achieved in terrestrial accelerators.

*Organiser: M. Prola-Tessaur / PH-EDU*



## Technical training

### CERN DOCUMENT SERVER (CDS), INSPIRE AND LIBRARY SERVICES

A new training course, "CERN Document Server (CDS), Inspire and Library Services", is available since the beginning of the year.

The training course is given by members of CERN's CDS Team (IT-CIS group) and the Library Services (GIS SIS group) and is intended for all members of personnel of CERN.

This course will present CDS and inspirehep.net and the content, scope and scientific information available in or with CDS, as much as the classification and organization of the documents.

It is intended to give you the training needed to know how to use CDS most efficiently and in particular covers:

- the main characteristics and advanced features for the search of documents (scientific, multimedia, etc)
- the collaborative tools : baskets, alerts, comments, evaluation, etc.
- the submission of documents in CDS and examples of workflows

An important part of the training is composed of various exercises, designed to acquire practical ability to work with CDS in cases similar to real life, including the most advanced features.

Don't wait: sign up for the training course directly through the CERN Training Catalogue by clicking on the following link:

Course code: 126CDS01 - CERN Document Server (CDS), Inspire and Library Services

The dates of forthcoming sessions are posted in the CERN Training Catalogue. The course will be offered in French and English. For more information, contact the CDS Team directly by sending an e-mail message to [cds.support@cern.ch](mailto:cds.support@cern.ch).



## Safety Training Course



Photos of the training session for self-rescue mask instructors held on 21 March 2012 – 10 new instructors followed the course.

### NEW REFRESHER TRAINING IN THE USE OF SELF-RESCUE MASKS

**A refresher course in the use of self-rescue masks has been added to the CERN training catalogue.**

#### Sign up!

More than 3500 people have followed the course since it was introduced in 2009.

Taking account of the forthcoming long shutdown, requests for follow-up training from course participants and recent changes in the course content, the HSE Unit has decided to place a three-year limit on the validity of the initial training and to introduce a refresher course.

The new refresher course is open to all personnel having completed the initial course at least 2 years ago.

The course, "*Recyclage Formation masque auto-sauveteur*" / "Refresher course Self-Rescue Mask Training", (code No. 077Y00R) is already available from CERN's training catalogue.

The first sessions are scheduled for April 2012.

The course will be offered in French and English and, like the initial course, will comprise both theory and practical sessions, including simulations under real conditions.

The Safety Training team anticipates a significant increase in requests for training before and during the first long shutdown known as LS1. You are therefore recommended to sign up for a course well in advance of the

start of the shutdown if the validity of your training expires within the next year.

Please note that the Safety Training Service will send a reminder to all those whose initial training is due to expire during LS1.

If you are unsure when you followed the initial course, you can find the date in the HRT application (<https://hrt.cern.ch/hrt/Training>).

*Safety Training Team*

### SAFETY TRAINING: PLACES AVAILABLE IN APRIL

There are places available in the forthcoming Safety courses. For updates and registrations, please refer to the Safety Training Catalogue. If you are interested in attending any of the below courses, please talk to your supervisor, then apply electronically via EDH from the course description pages, by clicking on SIGN-UP.

Registration for all courses is always open – sessions for the less-requested courses are organized on a demand-basis only. Depending on the demand, a session will be organised later in the year.

#### April 2012

*Alphabetical order (original course titles are maintained)*

##### Noise - Understanding the risks

18-APR-12, 10.00 – 12.30, in French

##### Driving of forklifts

23-APR-12 to 24-APR-12, 09.00 – 17.30, in French (with possibility to have the handouts in English)

##### First-aiders – Basic course

23-APR-12 to 24-APR-12, 08.30 – 17.30 and 08.30 – 12.30 (total: one day and a half), in French

##### First Aiders - Refresher Course

24-APR-12, 13.30 – 17.30, in French

##### Radiological Protection

23-APR-12, 13.30 – 17.30, in English

27-APR-12, 08.30 – 12.30, in English

##### Refresher course for electricians low Confined spaces

24-APR-12, 09.00 – 17.30, in French

##### Radiological Protection

27-APR-12, 13.30 – 17.30, in French

*Isabelle Cusato (HSE Unit)*



## MONDAY 16 APRIL

### LHC SEMINAR

11:00 - Council Chamber, Bldg. 503

### Recent Results on Top Physics in CMS

R. CHIERICI / UNIVERSITE CLAUDE BERNARD-LYON I (FR)

## WEDNESDAY 18 APRIL

### OTHER SEMINARS

12:00 - Bldg. 40-2-A01

### AMFIE Information meeting - open to active or retired members of personnel of CERN

H. ECKERT

## THURSDAY 19 APRIL

### COLLIDER CROSS TALK

11:00 - TH Auditorium, Bldg. 4

### Quark and Gluon Tagging at the LHC

J. GALLICCHIO / HARVARD U.

### ACADEMIC TRAINING LECTURE

#### REGULAR PROGRAMME

11:00 - TH Auditorium, Bldg. 4

### AMS\_02 Particle Physics Detector Technologies Orbiting the Earth (1/2)

C. GARGIULO / CERN

### TH BSM FORUM

14:00 - TH Auditorium, Bldg. 4

### Flavour symmetry for the light generations

D. STRAUB / SCUOLA NORMALE SUPERIORE

### A&T SEMINAR

14:15 - BE Auditorium Meyrin, Bldg. 6-2-024

### Accelerators and Medicine

D. UNGARO / ADAM SA

### TH EXCEPTIONAL SEMINAR

15:30 - TH Auditorium, Bldg. 4

### Vidyo presentation - a new video conference tool

J. CORREIA FERNANDES / CERN

## FRIDAY 20 APRIL

### DETECTOR SEMINAR

11:00 - Bldg. 40 - S2 - B01 (Salle Bohr)

### Trends and Perspectives of RICH detectors in High Energy Physics

E. NAPPI / INFN SEZIONE DI BARI

### ACADEMIC TRAINING LECTURE

#### REGULAR PROGRAMME

11:00 - TH Auditorium, Bldg. 4

### AMS\_02 Particle Physics Detector Technologies Orbiting the Earth (2/2)

C. GARGIULO / CERN

## TUESDAY 24 APRIL

### COMPUTING SEMINAR

11:00 - IT Auditorium, Bldg. 31-3-004

### Models, DSLs and Code Generation

M. VÖLTER / ITEMIS AG IN STUTTGART, GERMANY

### CERN HEAVY ION FORUM

11:00 - TH Auditorium, Bldg. 4

### Decoherence of QCD radiation in a quark-gluon plasma

K. TYWONIUK / LUND UNIVERSITY

### LHC SEMINAR

11:00 - Main Auditorium, Bldg. 500

### Search for the SM Higgs Boson with the ATLAS detector at the LHC

JIANMING QIAN / UNIVERSITY OF MICHIGAN

## WEDNESDAY 25 APRIL

### ACADEMIC TRAINING LECTURE

#### REGULAR PROGRAMME

11:00 - Main Auditorium, Bldg. 500

### Ultra-High Energy Cosmic Rays (1/3)

M. T. DOVA / UNIVERSIDAD NACIONAL DE LA PLATA & CONICET, ARGENTINA

### TH THEORETICAL SEMINAR

14:00 - TH Auditorium, Bldg. 4

### TBA

M. RAIDAL / NAT. INST. OF CHEM. PHYS. & BIOPHYS. (EE)

### ISOLDE SEMINAR

14:30 - Bldg. 26-1-022

### Isotope shift computations for medium and heavy elements: A challenge for atomic theory ?

S. FRITZSCHE / GSI DARMSTADT

### CERN HEAVY ION FORUM

15:30 - TH Auditorium, Bldg. 4

### Multiplicities from black-hole formation in heavy-ion collisions

E. KIRITSIS

## THURSDAY 26 APRIL

### ACADEMIC TRAINING LECTURE

#### REGULAR PROGRAMME

11:00 - Main Auditorium, Bldg. 500

### Ultra-High Energy Cosmic Rays (2/3)

M. T. DOVA / UNIVERSIDAD NACIONAL DE LA PLATA & CONICET, ARGENTINA

## FRIDAY 27 APRIL

### ACADEMIC TRAINING LECTURE

#### REGULAR PROGRAMME

11:00 - Main Auditorium, Bldg. 500

### Ultra-High Energy Cosmic Rays (3/3)

M. T. DOVA / UNIVERSIDAD NACIONAL DE LA PLATA & CONICET, ARGENTINA