

## CMS PRESENTS NEW BOUNDARY OF HIGGS WIDTH

At last year's Moriond conference, CERN physicists announced the retirement of the "Higgs-like" particle and the arrival of "boson, Higgs boson". Now, one year later, at the same session in the same conference, physicists are back with more exciting news about the famed particle. This time: the best constraint yet of the Higgs Boson "width", a parameter that determines the particle's lifetime.



Rencontres de Moriond 2014.

As a key indicator for new physics, the Higgs "width" has long been on the LHC "to-do" list. Now less than two years post-discovery, the CMS experiment has gotten the closest yet to pinning it down, constraining the parameter to  $< 17$  MeV with 95% confidence. This result is some two orders of magnitude better than previous limits: stronger evidence that this boson looks like the Standard Model Higgs boson. "It's been exciting to see how well the result has been received by the scientific community; it's been the buzz topic of the Moriond conference," said Nicola De Filippis, CMS collaboration member from Politecnico and INFN Bari.

### The Standard Prediction

For a Higgs mass of  $\sim 125$  GeV, the Standard

Model predicts a Higgs width of  $\sim 4$  MeV. Quite a low width, especially when compared to its compatriots, the W and Z bosons (with  $\sim 2$  GeV and  $\sim 2.5$  GeV widths, respectively). Before this new result, the best limit on Higgs width had it under 3.4 GeV, based on direct measurements.

### A New Approach

With the new constraint some 200 times tighter than previous limits, let's ask the obvious question: how did this improvement come about?

"Until now, measurements of the Higgs width had been heavily limited by experimental resolution, which is about 2 or 3 GeV - much larger than the width they were trying to determine," said



## A NOBLE CAUSE

Poignant is the word that comes to mind this week, a week in which we lost the last surviving founding father of CERN, François de Rose, and in which the institute he was instrumental in creating 60 years ago made a significant step towards the further construction of science in Europe, as CERN and ESA signed a new agreement.

(Continued on page 2)

## In this issue

### News

CMS presents new boundary of Higgs width	1
A noble cause	1
LS1 Report: injectors 2.0	2
New arrivals	4
10 April 2014: Safety Day at CERN	4
Roger Calder (1934 – 2014)	5

Behind the scenes of GS	6
Computer Security	7
Ombuds' Corner	7
Official news	8
Training	9
Take note	10
Seminars	12

(Continued on page 2)

Published by:

CERN-1211 Geneva 23, Switzerland

Tel. +41 22 767 35 86 Printed by: CERN Printshop

© 2014 CERN - ISSN: Printed version: 2077-950X

Electronic version: 2077-9518



# A word from the DG

## A NOBLE CAUSE

With the passing of François de Rose at the age of 103, we have lost a true pioneer, not only of CERN but also of Europe. And we can take pride in the fact that at 60, CERN still lives up to his vision of what Europe can achieve. De Rose was a diplomat, an ambassador, and a President of the CERN Council. He was an inspirational speaker, as we had the opportunity to witness a decade ago when he addressed CERN's 50th anniversary celebrations. And in a career that spanned the best part of a century, he rubbed shoulders with the likes of Niels Bohr, Pierre Auger, Edoardo Amaldi and Robert Oppenheimer. It's true to say that with the loss of a parent, the child comes of age. This week CERN came of age.

Like any dutiful child, the best way to deal with the passing of a parent is to do things that would have made that parent proud, and I'd like to think that our new agreement with ESA is something that François de Rose would have looked kindly upon. CERN and ESA are sister organisations in many respects. The vision that led to our creation is the same, and we are both world-leading global scientific institutions with a European soul. We are both celebrating significant anniversaries this year: 60 for CERN, 50 for ESA. In our science, we address the same great mysteries: at CERN by studying the very small, at ESA the very large. And in our technologies, we have similar challenges. This new agreement

(Continued from page 1)

opens the door to closer collaboration across all areas of common interest.

To conclude my message this week, I'd like to give the last word to François de Rose, who said in 2004: "CERN is one of the achievements with which I am the most proud to have been associated. I am still very attached to the Organization, not only because of the many friends I've made there but also because it is such a noble cause."

Rolf Heuer

# CMS PRESENTS NEW BOUNDARY OF HIGGS WIDTH

Roberto Covarelli, CMS collaboration member from the University of Rochester.

One can also extract an upper limit on the Higgs width at the price of assuming that its couplings to the known particles are given by the Standard Model, yet allowing new particles to affect the width. With this, previous CMS results and newly updated ATLAS results can be translated in upper limits on the Higgs width below 10 MeV. In 2012, theorists demonstrated that, with

fewer assumptions and using events with pairs of Z particles, the high invariant mass tail can be used to constrain the Higgs width. Using this technique, the CMS collaboration was able to produce the impressive new result.

### New answers to old problems

It's interesting to note that this much-improved constraint was revealed not by new data, but rather by an improved approach to analysis. "It is awesome to see how, with a bit of ingenuity, the LHC is becoming a precision instrument even in the Higgs sector," said

Luca Malgeri, CMS Physics Coordinator. The experimental era of Higgs physics is still in its infancy, and we have a lot more to learn before we can ship out to new shores. Stay tuned for more new answers to old problems.

Katarina Anthony

# LS1 REPORT: INJECTORS 2.0

Launched in 2009, the Accelerator Controls Renovation Project (ACCOR) will come to an end this year. It was brought in to replace the approximately 450 real-time control systems of the LHC injector complex, some of which were based on technology more than 20 years old.

These systems, which use special software and thousands of electronics boards, control devices that are essential to the proper functioning of the injectors – the radiofrequency system, the instrumentation, the injection kicker system, the magnets, etc. – and some of them were no longer capable of keeping pace with the LHC. As a

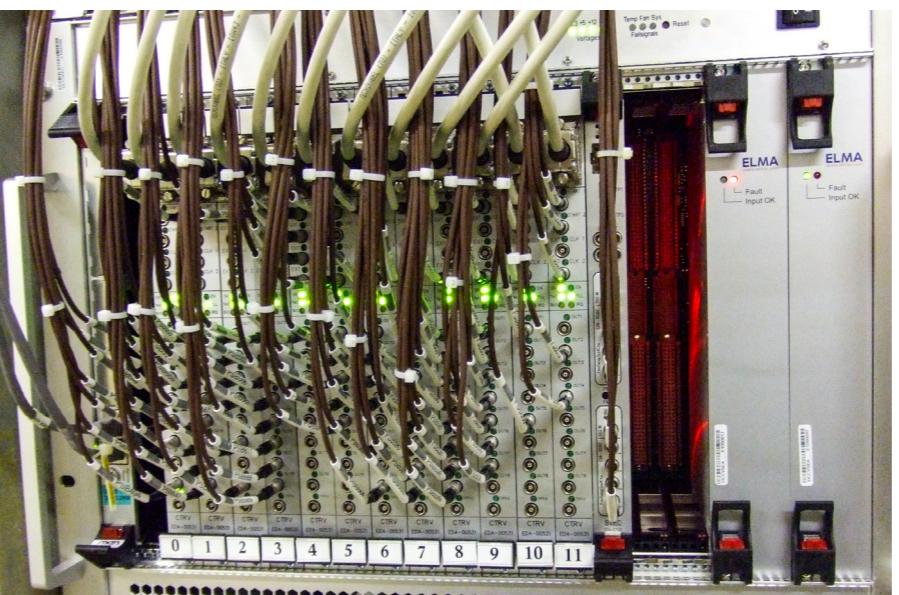
result, they urgently needed to be upgraded.

"In 2009, after assessing the new technology available on the market, we signed contracts with Europe's most cutting-edge electronics manufacturers," explains Marc Vanden Eynden, ACCOR Project Leader. We then quickly moved on to the integration phase: DAQ boards,

microprocessors and electronic crates. We had to integrate these new solutions into the injector environment and then redesign the new software and hardware architectures for each system we were renovating."

It took 14 months of hard work to replace all the control systems, during which a team of

(Continued from page 1)



One of the approximately 450 real-time systems that have been modified in the ACCOR project.

10 people assisted by a host of engineers disconnected and dismantled 450 systems and then re-assembled and reconnected them all again. "There were no manuals for some of the critical systems," says Marc Vanden Eynden, "and the people responsible for designing these systems were obviously not around anymore... So it was hard to tell which cable was for what! As a result, we had to do some 'reverse-engineering' to work out how the system had been built. Because once we had dismantled it there was no turning back."

The teams tested the new systems as they were being installed, but without a full restart of the machines it was impossible to get an overall view. But replacing these systems has affected all levels of control, from the equipment in the tunnel to the high-level programmes

used in the Control Room. Consequently, it is essential to carry out full integration tests to check every link in the chain.

So this year, with more and more injectors having been restarted, the teams have been able to carry out more comprehensive testing. In Linac 2, the control systems for the source and power converters have already been successfully tested. "The testing will become more critical from April onwards, because we'll be testing dozens of systems on several injectors in parallel. All tests are due to be completed by the end of August. Then, from the point of view of the control system, we'll have 'new machines' that are ready for the forthcoming LHC runs," concludes Marc Vanden Eynden.



Staff from the BE-CO and TE-EPC groups carrying out the integration tests on the control system for the Antiproton Decelerator (AD).0

## Meanwhile, elsewhere

At the LHC, the consolidation of the high-current splices between the superconducting cables of the electrical feed boxes (DFBAs), which is part of the SMACC project, has been completed. The teams are currently busy closing and connecting the DFBAO and DFBAN shuffling modules. The installation of the shunts in the arcs is also practically complete.

The electrical quality assurance testing (ELQA) carried out after the flushing of Sector 6-7 has not brought to light any new non-conformities, which is very good news. The cooling of this sector should therefore start at the beginning of May. At the PS and the PS Booster, the hardware tests have started - they will finish in May. We would like to congratulate the teams for all their hard work in keeping the work on schedule.

At the SPS, the campaign to replace the irradiated cables has been completed this week. The reinstallation of the line will begin next week. The start of the machine closure phase is still scheduled for 27 June.

Anaïs Schaeffer

# NEW ARRIVALS

On Friday 21 March 2014, recently-recruited staff members and fellows participated in a session in the framework of the Induction Programme.



HR Department

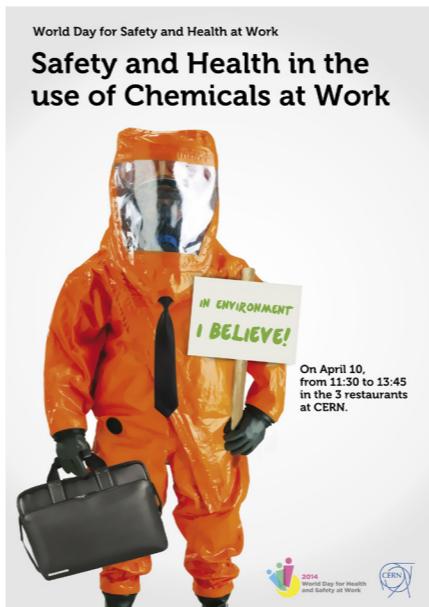
## 10 APRIL 2014: SAFETY DAY AT CERN

A wide variety of chemicals is used every day in the different laboratories and workshops around CERN. Potentially toxic, corrosive, polluting or hazardous in other ways, these chemicals all have to be handled carefully, as we will be reminded by the Safety Day campaign to be held by the HSE Unit on 10 April to mark World Day for Safety and Health at Work.

The use of chemicals at CERN is regulated by "Safety Regulation SR-C, Chemical Agents", which defines the minimum health and safety protection requirements for people exposed to the potentially hazardous effects

of dangerous chemicals. This regulation is complemented by other Safety guides. Regrettably, despite strict procedures and regular inspections, accidents caused by the improper use of chemicals do occur every year. "Unfortunately, each year we see a small

number of accidents related to the handling of chemicals," confirms chemicals expert Jonathan Gulley, who is a member of the Prevention and Safety Engineering Expertise Section (DGS-SEE-XP), which is part of the HSE Unit.



Chemicals are an eminently suitable subject for an awareness campaign, especially since this year the International Labour Office has chosen safety and health in the use of chemicals at work as the main theme of World Day for Safety and Health at Work. To mark the occasion, on 10 April the HSE Unit will be setting up stands at the entrances to the three restaurants. "We've come up with various activities to inform visitors in a fun, accessible way," explains Fanny Toutou-Mpondo, the communication manager for this event. "We'll be setting up three stands at the restaurant entrances. Each stand will have a different theme and objective: encouraging visitors to ensure they have accurate information about the different types of chemicals; taking the necessary precautions and using the right equipment when using potentially dangerous chemicals; and being aware that a chemical can be a pollutant and so must be disposed of according to an established procedure."

In addition to the three stands, the CERN Fire and Rescue Service will also be giving demonstrations of techniques for rescuing people involved in an accident involving the use of chemicals, and the Safety Training and Awareness team will be presenting their Chemical Hazards Awareness training and the various Safety training courses available.

So, on 10 April look out for the stands at the entrances to Restaurants 1, 2 and 3 between 11.30 a.m. and 1.45 p.m., where you can find out more and even win prizes!

Antonella Del Rosso

## ROGER CALDER (1934 – 2014)

Roger joined CERN's Accelerator-Research Division in May 1963, at the beginning of the Intersecting Storage Rings (ISR) project. The challenge was to evacuate the two beam pipes of about 1 km each to  $10^{-7}$  Pa and to obtain a beam lifetime of 20 hours. An ultra-high vacuum system of this size and complexity required the most advanced technologies available.

Among the outstanding contributions by Roger were: the choice of turbomolecular- and ion-pumps, low outgassing rates and an all-metal system bakeable to 300°C. Still today, Roger's name is linked to "900°C vacuum degassed stainless steel" for very low hydrogen outgassing.

The unexpected dynamic pressure runaway during the ISR start-up, at only a few A of beam, was quickly identified as the "ion-induced pressure bump instability". Among Roger's efforts to mitigate this effect, the pumping system was supplemented with titanium sublimation pumps. In a second step, the ion induced molecular desorption yield was reduced by a novel cleaning method, known as argon-oxygen glow discharge. Together, these measures introduced by Roger resulted in the ISR operating with stable beam currents well above 2x40 A, more than twice the design value, and beam lifetimes of many days.

Detailed understanding of beam-induced outgassing required skilful experiments. Roger contributed greatly to creating the necessary laboratory facilities for surface analysis. For his profound understanding of underlying physical processes, including the interaction with the proton beam itself, his advice was sought wherever storage rings were built. At CERN, his insight contributed greatly to the adoption for LEP of rigorous

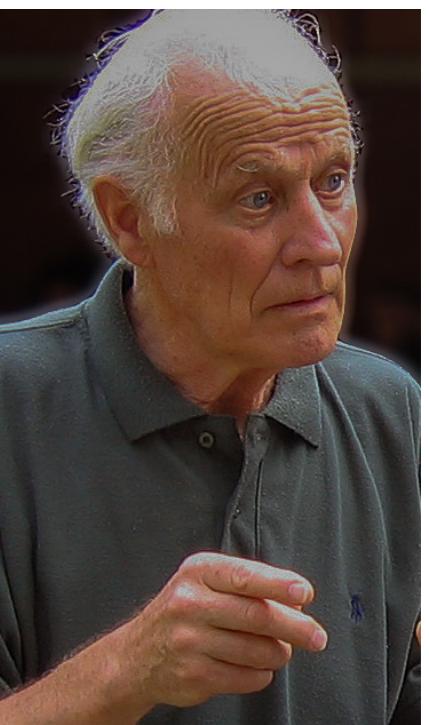
cleaning methods and "distributed pumping", without which the vacuum requirements could not have been met.

The latest contribution by Roger concerned the LHC vacuum. Based on his earlier work at CERN, he demonstrated that cryo-pumping large quantities of hydrogen at low saturation pressure would require a temperature of less than 3 K combined with a 'beam screen' inserted into the cold bore of the LHC magnets.

Roger's way of studying everything in detail, looking at a problem from all possible angles and verifying twice before declaring a result, was much appreciated. It was his painstaking attitude that, in 1980, made him a valued Assistant Editor of the British journal "Vacuum".

Roger had the invaluable aptitude to ask pertinent questions tactfully and to guide his colleagues towards the best solution to a problem, even in fields not directly related to physics. Roger was an ideal teacher for young recruits, whom he patiently guided to competence and accompanied in a fatherly role during their career. Even today, long after his retirement in 1997, their gratitude is still evident.

His friends and colleagues



# Behind the scenes of GS

## CROSS-PLATFORM

The year was 1989: the dawn of administrative computing. In a laboratory filled to the rafters with paperwork, CERN's then Director-General Carlo Rubbia saw an opportunity for a complete administrative overhaul. He established the Advanced Information Systems (AIS) project to analyse CERN's administration, which in turn suggested the Electronic Document Handling (EDH) system. By 1992, EDH was up and running - the start of a new chapter in CERN history.



The GS-AIS-EDH team.

If you think you've never come across EDH, think again. The system is an integral part of CERN life, handling everything from the purchase of materials to leave requests. EDH sees you through your entire CERN life: from your first CERN job application to your final retirement checklist.

### One platform, sixty-five functions

What makes EDH so special is its solitary nature: it is one platform that carries out dozens of varied functions. "Most companies organise their administration in 'vertical' applications," says Derek Mathieson, head of the GS-AIS Group. "They will have separate systems for leave, for purchasing, for contracts - and none of the systems talk to each other." EDH, on the other hand, brings all of CERN's administrative rules together onto a single platform. By combining these different types of data, the system can work a lot more efficiently.

"We had the advantage of starting very early, building horizontally from the ground up and adding to the same system as we developed," explains Mathieson. EDH started off its life

as a purchasing system, which later began to incorporate more complex documents. Once leave was added, the EDH team found they could leverage the different types of information gathered in order to make EDH the cross-platform system it is today.

Whatever task you need handled, EDH is there to make sure all the right steps are taken. "EDH knows every administrative rule and regulation," says Rostislav Titov, Section leader of the GS-AIS-EB section and EDH Project leader. "So when you submit a request, it will ensure you provide the right information and receive the correct approvals and will even generate complex administrative documents, such as letters to job candidates with details of travel and subsistence reimbursement." The GS-AIS-EDH team.

### Times, they are a-changin'

Like any IT system, EDH is in a constant state of change - but it's not the only one. A new, younger generation is shifting CERN's demographics, bringing with them higher expectations. "There are more Millennials at CERN than any other age group," says

Mathieson. "This is a generation that has come to expect systems like EDH and, for them, EDH is simply the minimum requirement. As our users develop, we need to keep pace."

The GS-AIS group is currently working on expanding its systems' accessibility on mobile devices and tablets. Soon, potential employees will be able to apply for a CERN position from a bus stop, and managers will approve leave requests from a meeting. "It's the future of accessibility," concludes Titov. "So while EDH can be used on these devices today, we plan to make the experience even better."

Katarina Anthony

# Computer Security

## SOCIAL MEDIA - DOS AND DON'TS

Do you blog frequently? Send tweets about what you've done? Keep a lively Facebook profile? Comment regularly on interactive forums? Many of us do.

"Social media", i.e. Twitter, Facebook, public blogs, interactive forums and public commenting functions on websites, are widely used for sharing information, outreach and contact with the world. While you can make use of social media for many different purposes, the lines between private and public, personal and professional are often blurred.

Consequently, it is often difficult to get the balance right. As a social animal, you want to be frank, open and communicative and share your knowledge, experiences, opinions, feelings and life with your peers. On the other hand, while working at or for CERN, you cannot act in the void but have to respect CERN's Code of Conduct, CERN's Computing Rules and, for CERN personnel, the Staff Rules and Regulations. Therefore, if your posts include mention of or make reference to

CERN, it is worth reflecting on whether your subject, message and choice of words are appropriate.

confidentiality and intellectual property. All this, in an easy to follow and understandable way. Take a look and enjoy your online communication activities!

Check out our website for further information, answers to your questions and help, or e-mail [Computer.Security@cern.ch](mailto:Computer.Security@cern.ch).

If you want to learn more about computer security incidents and issues at CERN, just follow our **Monthly Report**.

Computer Security Team

## Ombuds' Corner

## HAPPINESS AT WORK - YES IT COUNTS!

Some people call it "motivation", others "recognition" or "success". For all, feeling happy at work is an important contributing factor to feeling good about life. How much of it is in our own hands and how much depends on the Organization's ways of working?

Some time ago, someone came into my office and remarked on some of the books I have on my shelf: "Two books related to 'Happiness at Work' - how come? Why read about that?" - the person asked. Why indeed? Is being happy even a relevant question in the work context?

Recent literature on the subject seems to suggest that happiness at work has a direct impact on motivation and ultimately on overall performance and productivity. Organisations that recognise this also understand the need to look after the well-being of their staff and to focus equally on taking into account the interests of individual members as well as the collective whole.

Feeling happy at work depends a lot on the mindset with which we come into the office every morning. If we feel that we are able to find our place in a team, to contribute meaningfully and to continually work towards achieving our own potential, we generally feel happy at work. Conversely, if our work does not interest us or we do not have a pleasant and supportive network of colleagues among whom we feel accepted, we are very likely to feel dissatisfaction.

When dissatisfaction lasts over a prolonged period, it can have serious consequences for the person and for the work environment. This is why, as members of the personnel, it is important to know that we can always turn to the Organization for support. Indeed, CERN

has established various channels of support for assuring the wellbeing of its staff, and, depending on the situation, we can choose to talk to our hierarchy, or turn to other partners as appropriate for the informal or, if necessary, more formal resolution of our problems.

However, whatever means the Organization may have put in place to help us to overcome our difficulties, we remain the principal actors concerned and it is by taking situations into our own hands and proactively looking for solutions that we can have a significant influence on their outcome.

Practically speaking, this implies taking responsibility for what happens to us when we come to the office, questioning our

own response to certain situations and understanding that by changing our approach to things we are sometimes also able to have a positive influence on our environment. Taking responsibility does not always mean that we have to cope with difficult situations alone, however, and recognising that there may be times in our working lives when we need support is sometimes the most responsible approach we can take.

Feeling happy at work really does count as it affects not only what you do but also more generally who you are – as a colleague, a supervisor or a member of the larger CERN team - and of course this also has an important impact on everyone around you. As colleagues, we all play our part in creating a positive environment - so do not hesitate to take your happiness at work into your own hands – and yes, you are welcome to browse

through the books on my shelf or better still, order them through the library, if you like!

**"Happiness is not something ready made.**

**It comes from your own actions."**

Dalai Lama

Sudeshna Datta-Cockerill

## Official news

### PROCEDURE FOR OBTAINING VISAS FOR SWITZERLAND AND FRANCE - SIGNATURE RIGHTS

**In accordance with the Status Agreements with CERN, Switzerland and France facilitate the entry of members of the Organization's personnel onto their territories. Where relevant, detailed procedures for obtaining visas apply.**

Within the framework of those procedures, only the following individuals are authorised to initiate the note verbale procedure as well as to sign the Official Invitation Letters and the Conventions d'accueil.

1. Kirsti ASPOLA (PH – CMO)
2. Catherine BRANDT (DG – IR)
3. Oliver BRÜNING (BE – ABP)
4. Michelle CONNOR (PH – AGS)
5. Patrick FASSNACHT (PH – ADO)
6. Fernando FERNANDEZ SAVORGNANO (HR – TA)
7. David FOSTER (IT – DI)
8. Nathalie GRÜB (PH – AGS)
9. Cécile NOELS (DG – DI)
10. Maria QUINTAS (HR – TA)
11. Kate RICHARDSON (PH – AGS)
12. Jeanne ROSTANT (PH – AGS)
13. José SALICIO-DIEZ (PH – AGS)
14. Ulla TIHNEN (PH – AGS)
15. Rüdiger VOSS (DG – IR)

The French and Swiss Authorities will reject any request signed by a person who is not on this list.

We would like to remind you that in accordance with the memorandum of 7 December 2000 issued by the Director of the Administration, (ref. DG/DA/00-119), "the Organization shall not request any legitimisation document (or residence permit) or visa from the Host States for persons registered as EXTERNAL" (people who do not hold a contract of employment, association or apprenticeship with CERN).

We would also like to remind you that those coming to CERN should find out in good time about the applicable conditions of entry to Switzerland and France and should ensure that they obtain the requisite visas, where applicable, in the country in which they are habitually resident.

Useful information can be obtained from the Swiss and French diplomatic representations abroad, as well as from the Web pages of the:

- Swiss Federal Office for Immigration
- French Ministry of Foreign Affairs

The Authorities of the Host States have informed the Organization on a number of occasions that they insist upon scrupulous compliance with visa legislation.

*Relations with the Host States Service*  
<http://www.cern.ch/relations/>  
*relations.secretariat@cern.ch*  
*Tel.: 72848*

## Training

### TECHNICAL TRAINING: PLACES AVAILABLE

If you would like more information on a course, or have any other inquiry/suggestions, please contact Technical. Training@cern.ch.

#### » Controls and data acquisition

FESA:New Features & Migration  
Introduction to VHDL  
LabVIEW Structures  
LabVIEW for Experts

Language	Next Session	Duration	Availability
English	09-mai-14	1 day	6 places available
English	06-May-14 to 08-May-14	3 days	2 places available
English	22-Apr-14 to 23-Apr-14	2 days	5 places available
English	12-May-14 to 16-May-14	5 days	3 places available

#### » Electronic engineering

Altium Designer: Essentials

French	23-Sep-14 to 26-Sep-14	4 days	5 places available
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#### » Information technologies

Agile Project Management with Scrum  
CERN openlab / Intel Parallelism, Compiler and Performance Workshop  
CERN openlab/Intel Workshop on Numerical Computing  
Core Spring  
Developing secure software  
Drupal Site Developing  
JAVA - Level 1  
Javascript/jQuery/AJAX course  
Oracle Certified Professional  
Python: Advanced Hands-On  
Scaling and Optimisation for My SQL

English	06-May-14 to 07-May-14	2 days	2 places available
English	12-May-14 to 14-May-14	3 days	25 places available
English	05-May-14 to 06-May-14	16 hours	34 places available
English	19-May-14 to 22-May-14	4 days	4 places available
English	23-juin-14	3.5 hours	30 places available
English	25-Mar-14 to 26-Mar-14	16 hours	3 places available
English	02-Jun-14 to 04-Jun-14	24 hours	6 places available
English	28-Apr-14 to 30-Apr-14	3 days	4 places available
English	30-Jun-14 to 04-Jul-14	5 days	12 places available
English	16-Jun-14 to 19-Jun-14	4 days	3 places available
English	07-Apr-14 to 08-Apr-14	16 hours	5 places available

#### » Mechanical engineering

ANSYS CFX.  
ANSYS Workbench advanced  
AutoCAD - level 1  
CATIA V5 – Surface  
CATIA-Smartteam Basics  
Geometrical Dimensioning and Tolerancing according to ISO standards at CERN  
Travailler en salle propre

English	10-Jun-14 to 13-Jun-14	4 days	3 places available
English	13-May-14 to 16-May-14	4 days	5 places available
French	09-Apr-14 to 17-Apr-14	4 days	3 places available
French	26-May-14 to 27-May-14	2 days	7 places available
French	19-May-14 to 20-Jun-14	10 days	6 places available
English	09-Apr-14 to 11-Apr-14	3 days	4 places available
French	28-mars-14	8 hours	23 places available

#### » Physics

Demonstrating Reliability with Accelerated Testing

English	13-May-14 to 14-May-14	2 days	14 places available
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#### » Software packages

CERN EDMS - Introduction  
CERN EDMS for Local Administrators  
Drupal Site Editing: Advanced  
Drupal Site Editing: Beginners  
EXCEL 2010 - Level 2: ECDL  
EXCEL 2010 - level 1 : ECDL  
Expression Web - Level 1 (former Sharepoint Designer or Frontpage)  
Lync - click to call and collaborate with others  
MS Project  
PowerPoint 2010 - Level 1: ECDL  
Powerpoint 2010 - Level 2 - ECDL  
Tailor made office Group training  
Vidyo - Hands on Overview  
Word: Perfectionnement et charte graphique CERN

French	06-mai-14	8 hours	5 places available
English	15-May-14 to 16-May-14	2 days	9 places available
French	10-Apr-14 to 11-Apr-14	2 days	7 places available
French	19-May-14 to 20-May-14	2 days	5 places available
French	12-May-14 to 13-May-14	2 days	5 places available
English	07-Apr-14 to 08-Apr-14	2 days	5 places available
English	10-Apr-14 to 11-Apr-14	2 days	6 places available
English	29-avr-14	1 hour	56 places available
English	04-Apr-14 to 11-Apr-14	12 hours	One more place available
English	14-Apr-14 to 15-Apr-14	2 days	8 places available
French	15-May-14 to 16-May-14	2 days	6 places available
French	27-mars-14	3 hours	6 places available
English	10-juin-14	3 hours	6 places available
French	23-mai-14	1 day	7 places available

Eva Stern and Elise Romero,  
Technical Training Administration (Tel: 74924)

## SAFETY TRAINING: PLACES AVAILABLE IN APRIL 2014

There are places available in the forthcoming Safety courses. For updates and registrations, please refer to the Safety Training Catalogue.

April 2014  
(alphabetical order)

**ATEX Habilitation - Level 2**  
03-APR-14 to 04-APR-14, 9.00 – 17.30, in French

**Cryogenic Safety - Level 1**  
10-APR-14, 10.00 – 12.00, in English

**Electrical Palett Truck - Driving**  
15-APR-14, 8.30 – 12.30, in French (hand-outs in English for non-French-speaking participants)

**Fire Extinguisher**  
09-APR-14, 10.30 – 12.00, in French  
16-APR-14, 10.30 – 12.00, in English  
23-APR-14, 10.30 – 12.00, in English

**First Aider - Level 1 – Initial**  
03-APR-14, 8.30 – 17.30, in French  
10-APR-14, 8.30 – 17.30, in English  
16-APR-14, 8.30 – 17.30, in English  
24-APR-14, 8.30 – 17.30, in English

**First Aider - Level 1 – Refresher**  
17-APR-14, 8.30 – 12.30, in English  
17-APR-14, 13.30 – 17.30, in English

**Habilitation électrique - Electrician Low Voltage – Initial**  
09-APR-14 to 11-APR-14, 9.00 – 17.30, in French

**Habilitation électrique - Electrician Low Voltage – Refresher**  
03-APR-14 to 04-APR-14, 9.00 – 17.30, in French (1,5 day)

**Habilitation électrique - Electrician Low and High Voltage – Refresher**  
15-APR-14 to 16-APR-14, 9.00 – 17.30, in French

**Habilitation électrique - Non electrician – Refresher**  
02-APR-14, 9.00 – 17.30, in French

**Magnetic Fields**  
14-APR-14, 9.30 – 12.00, in French

**Mobile Elevated Working Platform - Driving - Initial**  
24-APR-14 to 25-APR-14, 8.30 – 17.30, in French (hand-outs in English for non-French-speaking participants)

**Mobile Elevated Working Platform - Driving - Refresher**  
16-APR-14, in French (hand-outs in English for non-French-speaking participants)

**Noise – Risks**  
24-APR-14, 10.00 – 12.30, in English

**Overhead Crane - Operator and Slinger - Initial**  
03-APR-14 to 04-APR-14, in French (hand-outs in English for non-French-speaking participants)

**Overhead Crane - Operator and Slinger - Refresher**  
02-APR-14, in French (hand-outs in English for non-French-speaking participants)

**Radiation Protection - Controlled Area - CERN Employees and Associates**

09-APR-14, 9.00 – 17.00, in English  
10-APR-14, 9.00 – 17.00, in French  
17-APR-14, 9.00 – 17.00, in English  
23-APR-14, 9.00 – 17.00, in English  
24-APR-14, 9.00 – 17.00, in French

**Self-Rescue Mask - Initial**  
07-APR-14, 10.30 – 12.00, in French  
07-APR-14, 14.00 – 15.30, in English  
14-APR-14, 10.30 – 12.00, in French  
14-APR-14, 14.00 – 15.30, in English  
22-APR-14, 10.30 – 12.00, in French  
28-APR-14, 10.30 – 12.00, in French  
28-APR-14, 14.00 – 15.30, in English

**Self-Rescue Mask - Refresher**  
01-APR-14, 10.30 – 12.00, in French  
03-APR-14, 10.30 – 12.00, in English  
08-APR-14, 10.30 – 12.00, in French  
10-APR-14, 10.30 – 12.00, in English  
15-APR-14, 10.30 – 12.00, in French  
17-APR-14, 10.30 – 12.00, in English  
24-APR-14, 10.30 – 12.00, in English  
29-APR-14, 10.30 – 12.00, in French

**Territorial Safety Officer (TSO) - Initial**  
01-APR-14 to 03-APR-14, 8.30 – 17.30, in English

**Working at Heights - Using a harness**  
15-APR-14, 9.00 – 17.30, in French  
23-APR-14, 9.00 – 17.30, in English

Safety Training team, HSE Unit

## THE 37TH CERN SCHOOL OF COMPUTING VISITS PORTUGAL: APPLY NOW!

CERN is organising its summer School of Computing for the 37th time since 1970. CSC2014 will take place from 25 August to 6 September in Braga, Portugal.



CERN  
School of Computing

passed and successful participants will be awarded European credit certificate (ECTS) by Minho University.

Networking and socialization is the other goal of the CSCs. One vehicle for social networking is the CSC Sports Programme, which proposes two to three hours of sport every afternoon for those who are interested. Sport at the CSC is supported by the CERN Medical Service and is part of CERN's Move! Eat better programme.

Apply now! The deadline is 2 May.

Alberto Pace, CSC Director

## OPENING TIMES FOR CERN RESTAURANTS OVER THE EASTER WEEKEND

- Restaurants No. 1 and No. 3 will be closed from Friday 18 April to Monday 21 April 2014 inclusive.
- Restaurant No. 2 will be open from 7.00 a.m. to 3.00 p.m. on Friday 18 April (catering on the ground floor). It will be closed from Saturday 19 April to Monday 21 April 2014 inclusive.
- The snack point at Building 40 will be open from 8.00 a.m. to 8.00 p.m. on Friday 18, Saturday 19, Sunday 20 and Monday 21 April 2014.

11 April 2014). AEPSHEP is held every second year, hosted in countries in the Asia-Pacific region. The first School in the series was held in Fukuoka, Japan in 2012.

Applications to attend the School are invited particularly from students from countries in the Asia-Pacific region and from Europe, although applications from other regions will also be considered. The programme of the school will be at a level appropriate for PhD students in experimental particle physics. It is anticipated that students working on phenomenology (if not too far from experimental particle-physics) will also be accepted. The School is open to junior post-docs (typically less than two years after completing their PhD), and also advanced MSc students provided that their prior knowledge is comparable with that of the principal target audience, so that they can benefit from the courses offered at the School.

Wherever possible, participants are expected to obtain funding for the fee as well as their travel from their home countries. However, some sponsorship will be available for a limited number of students from countries with developing programmes in particle physics. Eligible students are therefore encouraged to apply even if they do not expect to obtain funding from their home institute to attend the School.

Nick Ellis, on behalf of the Organising Committee

## SAFETY BULLETIN 2014-2

The HSE Unit would like to inform you that the Safety Bulletin 2014-2 entitled "False floors: real dangers" has just been released.

The Bulletin is available on EDMS under the following number: 1366385. We would like to remind you that HSE Safety Bulletins are published in English and French and incorporate feedback from incidents/near misses/accidents that have occurred on the CERN site, with the aim of improving prevention.

We remain at your disposal in case you have further questions: [safety.bulletin@cern.ch](mailto:safety.bulletin@cern.ch).

HSE Unit

## 2014 ASIA-EUROPE-PACIFIC SCHOOL OF HIGH-ENERGY PHYSICS

Dear Colleagues,

I would like to draw your attention to the 2014 Asia-Europe-Pacific School of High-Energy Physics.

The second Asia-Europe-Pacific School of High-Energy Physics, AEPSHEP2014, to be held in Puri, India, from 4 to 17 November 2014, is now open for applications (deadline

## UNIVERSITÉ DE GENÈVE | PARTICLE PHYSICS COLLOQUIUM | 9 APRIL

A window to the future : the Hyper-Kamiokande project, by Prof. Francesca Di Lodovico, London University.

Wednesday 9 April 2014, 11:15 a.m.  
Science III, Auditorie 1S081  
Boulevard d'Yvoi, 1211 Genève 4

**Abstract:** In this talk we present the latest status of the Hyper-Kamiokande project. The experiment, based in Japan, has an extremely rich physics portfolio that spans from the study of the CP violation in the leptonic sector and neutrino mixing parameters to proton decay, atmospheric neutrinos and neutrinos of an astronomical origin.

In particular, thanks to an upgraded beam power, we will focus on the extremely high sensitivity to CP violation.

The project was recently selected as one of the top 27 projects by the Japanese Science Council in the "Japanese Master Plan of Large Research Projects" and is supported worldwide by the international community. It is currently in the design and R&D phase.

In this talk we will review both the physics

## Take note

### INTRODUCING THE NEW EDMS

We are very pleased to announce the arrival of a brand new EDMS: EDMS 6. The CERN Engineering and Equipment Data Management Service just got better than ever! EDMS is the *de facto* interface for all engineering related data and more. Currently there are more than 1.2 million documents and nearly 2 million files stored in EDMS.



What's new?

The first thing you will notice is the look and feel of EDMS 6; the new design not only makes it more modern but also more intuitive, so that the system is easier to use, regardless of your experience with EDMS.

Whilst we have kept the key concepts, we have introduced more functionality and improved navigation within the interface, allowing for better performance to help you in your daily work. We have also added a personal slant to EDMS 6 so that you can now customise your list of favourite objects. Modifying data in EDMS is much simpler, allowing you to view all object data in a single window. More functionality will be added in the upcoming months, so stay tuned by following the "News" panel on the new EDMS 6 home page.

Don't just take our word for it; there are plenty

of new highlights we'd like to demonstrate to you so you can see for yourselves. Just before we go live with EDMS 6, we shall be organising presentations in English and in French on the following dates:

30-7-018 - Kjell Johnsen Auditorium  
**8 April 2014 9 a.m. – 10 a.m.** Introduction to EDMS 6 in English  
**8 avril 2014 10h30 – 11h30** Introduction à EDMS 6 en français

864-1-D02 - BE Auditorium Prevessin  
**10 April 2014 2 p.m. and 3 p.m.** Introduction to EDMS 6 in English  
**10 avril 2014 15h30 and 16h30** Introduction à EDMS 6 en français

Looking forward to seeing you all then!

The EDMS Team

potential of the experiment and the current design and R&D.

Organised by Prof. [Teresa.Montaruli@unige.ch](mailto:Teresa.Montaruli@unige.ch) and Prof. [Giuseppe.Iacobucci@unige.ch](mailto:Giuseppe.Iacobucci@unige.ch).

## RASPBERRYPI PROGRAMMING DAY | 12 APRIL

CERN is hosting a Raspberry Pi programming day on 12 April 2014.

The event includes a hands-on workshop and a series of presentations of different projects with the Raspberry Pi. The presentations and workshop provide an ideal introduction for beginners and information for those with more advanced computer programming skills. Basic programming techniques will be discussed using Scratch, Python and C, through a set of worked examples and additional electronics. The electronics examples will include a LEGO NXT interface, other expansion boards and a variety of basic I/O components and sensors.

This event is free, but it is necessary to sign up to be able to attend. If you would like to present a project or bring your Raspberry Pi project to discuss in the tutorial session, please also email [raspberry.pi@cern.ch](mailto:raspberry.pi@cern.ch) with the details of your presentation or project.

William Bell



Diversity in Action Workshop  
3rd edition

Tuesday 8 April 2014  
8.30am to 12pm

Business Center Technoparc —Saint-Genis-Pouilly

Registration mandatory through [www.cern.ch/diversity](http://www.cern.ch/diversity)

Get an **insight into diversity**, develop greater **sensitivity to differences**, acquire new tools to recognise and **overcome unconscious biases**.

Seize the opportunity to participate in this innovative Diversity & Inclusiveness workshop tailor-made for CERN.

Everyone working on the CERN site is welcome!

Workshop facilitated by Alan Richter, Ph. D., Head of QED consulting.  
For more information on Alan visit his [website](#)

Event organised by  
CERN Diversity Programme



## BLOOD DONATION

Thursday 3 April 2014 from 9.00 to 17.00  
CERN, Restaurant n°2 (bât 504)

After the donation : snack offered by NOVAE and the HUG

[www.dondusang.ch](http://www.dondusang.ch)  
GIVE BLOOD - ONE DAY YOUR LIFE MIGHT DEPEND ON IT



## Seminars

### THURSDAY APRIL 03, 2014

- 14:30 ISOLDE Seminar **GOSIA** 26-1-022

### FRIDAY APRIL 04, 2014

- 14:00 Particle and Astro-Particle Physics Seminars **TBA** TH Conference Room

### MONDAY APRIL 07, 2014

- 14:00 TH Journal Club on String Theory **Gliozzi's truncation way to do bootstrap** TH Common room

### TUESDAY APRIL 08, 2014

- 09:45 Detector Seminar **QUASAR meeting** 24-1-016
- 11:00 Computing Seminar **Massive Predictive Modeling using Oracle R**

### Enterprise IT Amphitheatre

- 11:00 EP Seminar **The Ways of Four-Quark Hadrons** Main Auditorium
- 14:00 TH String Theory Seminar **TBA**

### WEDNESDAY APRIL 09, 2014

- 14:00 TH Theoretical Seminar **TBA** TH Conference Room
- 14:30 ISOLDE Seminar **From CAST to IAXO: towards a new generation axion helioscope** 26-1-022

### THURSDAY APRIL 10, 2014

- 09:00 Technical Seminar **17eme Forum Utilisateurs CATIA** au CERN Kjell Johnsen Auditorium
- 14:15 A&T Seminar **The Cryostat and Cryogenic System for the Far Detector of the Long Based Neutrino Experiment (LBNE)** Kjell Johnsen Auditorium

### FRIDAY APRIL 11, 2014

- 11:00 Detector Seminar **CLIC Vertex-Detector R&D** Salle Anderson
- 14:00 Particle and Astro-Particle Physics Seminars **TBA** TH Conference Room
- Saturday April 12, 2014
- 09:30 Raspberry Pi **Raspberry Pi au CERN**

### MONDAY APRIL 14, 2014

- 08:00 CERN Spring Campus **2014 CERN Spring Campus**

### TUESDAY APRIL 15, 2014

- 14:00 TH String Theory Seminar **TBA**
- 16:00 CERN and Spain **Visita Ganadores Concurso CERN-FPA**