



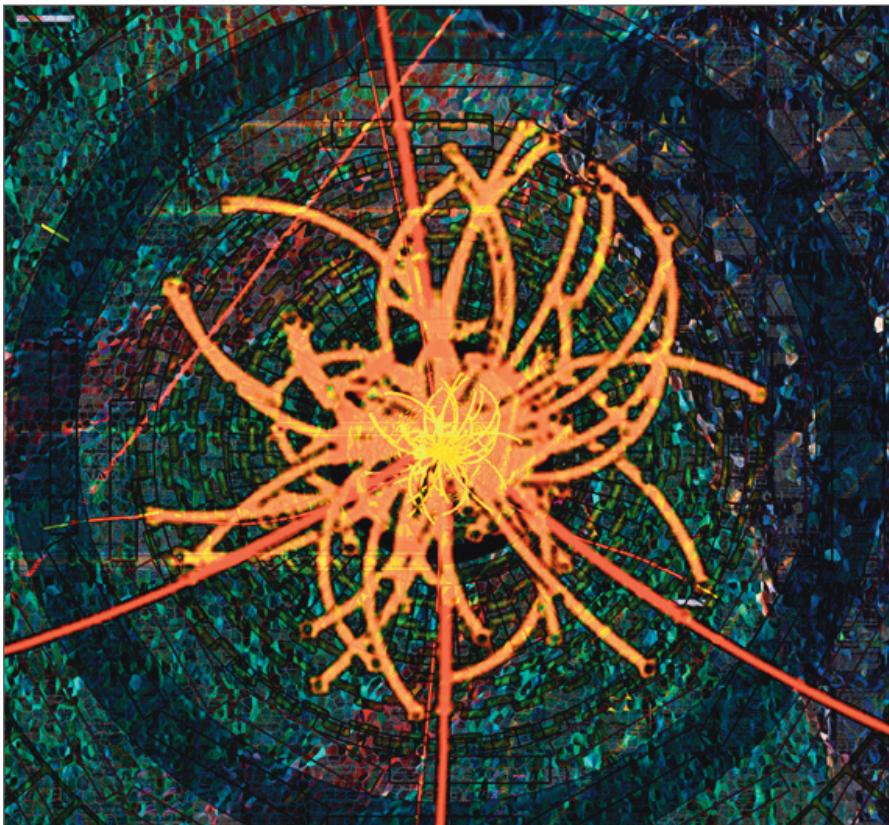
# CERN Bulletin

Nos 23-24 | 3-10 June 2013

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## One or many?



*Image: Xavier Cortada (with the participation of physicist Pete Markowitz), "In search of the Higgs boson:  $H \rightarrow ZZ$ ", digital art, 2013. Please note that this image is a detail from Xavier Cortada's art work installed at LHC P5 CMS.*

**How many Higgs bosons are out there? Several theoretical models foresee the existence of more than one such boson but the current data cannot confirm any of these scenarios. What should we expect from the future data and the results of the current analysis?**

According to some theories, the mechanism that requires the existence of the Higgs boson (known by physicists as "electroweak symmetry breaking") could also imply the involvement of other spin-zero – "boson" – particles. How would these relate to the newly-discovered particle? "The properties that the other Higgs bosons would have vary a lot depending on the theoretical model you consider," explains Gian Giudice, member

of the Theoretical Physics Unit at CERN. "The theory of supersymmetry predicts the existence of replicas of the Higgs field and these replicas would be associated with new spin-zero particles that could be neutral or charged. Instead, if the Higgs boson were a composite particle, we would expect to find new heavy short-lived states of matter with various units of spin."

*(Continued on page 2)*



**A word from the DG**

### A shower of good news

It never rains but it pours. So the saying goes, and it was literally true in Brussels this week as well as figuratively, seen from a CERN perspective. I am in Brussels for the special meeting of the European Strategy Session of Council, which yesterday approved the updated European Strategy for Particle Physics. This is the first time that the Council has met in Brussels, and we used the opportunity to meet people whose opinions matter on science in Europe.

*(Continued on page 2)*

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## A word from the DG

### A shower of good news

From a working lunch with MEPs in the European Parliament on Wednesday, we moved across town to the European Commission, our host for the Council meeting. The day was rounded off with a very stimulating panel discussion on the value of basic research, attended by many Brussels-based opinion leaders, as well as a number of European science research ministers, which brings me to the main reason for our being in Brussels this week.

The timing of the CERN Council meeting was fixed to coincide with that of the European Competitiveness Council, which is composed of all of the European Union's research ministers, and after our meeting on Thursday morning, a delegation from CERN Council and management had a meeting with them. It was an opportunity for us to pass on the message that international research in Europe pays dividends. In those fields of science where Europe has established intergovernmental

organizations - like CERN - that provide world-class infrastructure and stable governance, Europe leads. That's a message that's important to get across in political circles, both at the national level and the European level, and there's no better place to do that in Europe than Brussels during a Competitiveness Council meeting.

So that was our main reason for being in Brussels, but this week also saw the announcement of a new collaboration between the EU, SESAME and CERN. With EU finance, CERN engineers will work with SESAME staff to design the magnets for the SESAME main ring, allowing this wonderful new lab in the Middle East to start commissioning in 2015. It's a very important project, and one that I am proud for CERN to be involved with.

Finally, we learned on Wednesday that the Prince of Asturias Foundation had decided to award Spain's most prestigious prize to Francois Englert, Peter Higgs and

(Continued from page 1)

CERN. CERN, and scientists related to our research, have been on the receiving end of many prizes this year, and this is a sign both of the importance of our work and the increasing visibility it is getting in the wider world. What makes the Prince of Asturias prize special is that it recognises the intimate link between experiment and theory. Neither could exist without the other, so it is fitting that the award should be shared this way. And, as I said to many of the journalists from Spain who I spoke to on Wednesday, it is an award that Spain can justly be proud of, as it is one of CERN's Member States.

It never rains, but it pours. And this has certainly been a busy week in Brussels. But it does no harm to get a little wet from time to time.

Rolf Heuer

## One or many?

So far, the data analysis seems to show a very standard Higgs boson. However, the information we have is not enough to rule out most of the theoretical models. "There is still room for speculation in this field," confirms Gian Giudice. "For us it is hard to swallow that the minimal Higgs structure, which is so inapt to address many fundamental issues, could be the full story. There are good reasons to believe that the Higgs boson is only the first native we have encountered in an as yet unexplored, but vastly populated, new territory."

The discovery of the Higgs boson was a great achievement that required a huge effort from all the scientists involved in the data analysis. Searching for additional Higgs bosons is an even greater challenge. "The lack of clear hints in favour of a specific theory forces researchers to follow many different avenues," says Gian Giudice. "Some of these avenues do not lead to easy discoveries. Take the example of the Higgs replicas in supersymmetry.

Present experimental data constrain the new Higgs fields to have only a marginal role in the breaking of electroweak symmetry. As a result, the production of new Higgs bosons is a relatively rare event at the LHC and their discovery requires a data-set larger than the one required for the by-now "familiar Higgs boson."

In the sea of speculations that will take several years of data collection to explore, there is one regarding the matter-antimatter asymmetry in the Universe – one of the most intriguing mysteries that physicists are trying to unveil. "Some theorists have hypothesised that the Higgs field could have triggered the matter-antimatter asymmetry a tenth of a billionth of a second after the Big Bang," explains Gian Giudice. "The information that we have so far does not confirm this scenario. But, if we postulate the existence of new particles involved in the Higgs mechanism, this scenario could be reconsidered."

Antonella Del Rosso

# LS1 Report: operations on the right track

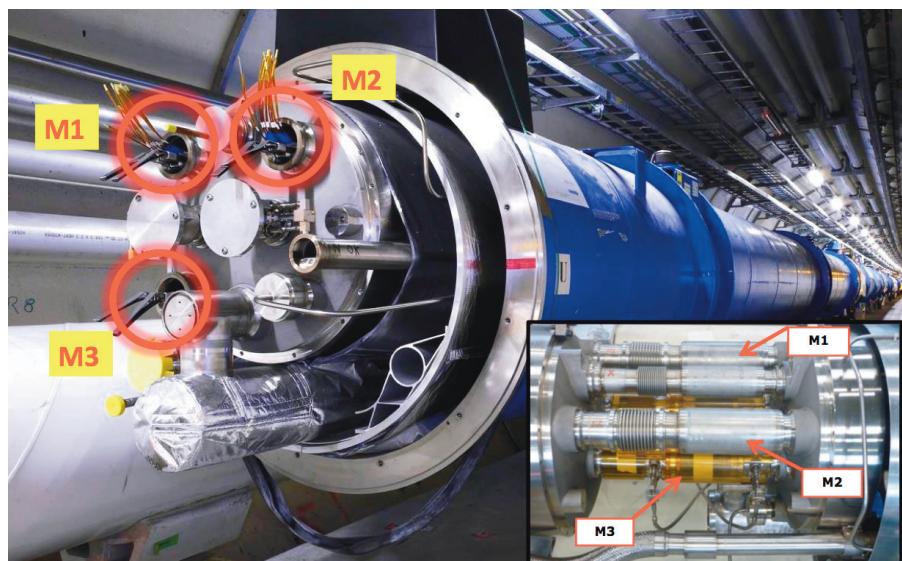
The SMACC interconnection train continues to progress in Sector 5-6 of the LHC, where the re-soldering of the opened M-lines has started (see picture 2). The interconnection teams are now also starting work in Sector 6-7, preparing and opening the interconnection bellows etc.



Picture 1: Work in progress on Route Goward.

In addition, the SMACC special intervention team, which looks after specific individual magnet and circuit-related jobs, has started disconnecting the individual magnets that are to be removed from the tunnel. The first of these, quadrupole Q5L8, was moved out of the tunnel by EN/HE overnight on 27 May.

At the PS Booster (PSB), the preparations for the removal of the existing extraction beam dump are in full swing. The current beam dump has to be replaced as part of the upgrade programme to improve PSB beam performance. This programme involves using H<sup>+</sup> ion injection from LINAC4 and increasing the PSB extraction energy to 2 GeV, both of which will lead to an increase in the power of the extracted PSB beam.



Picture 2: Magnet interconnection - the M-lines are the pipes containing the main bus bars.



Picture 3: A water reservoir.

There is good news from the GS Civil Engineering teams working above the PS tunnel on Route Goward (see picture 1). This work to improve the radiation shielding of the PS machine is progressing faster than expected, which will be a welcome relief to anyone needing to access the centre of the PS ring, as the use of Route Goward is severely restricted during the work. It is also hoped that this will allow the next major civil engineering work on the PS tunnel, a project that will improve the radiation shielding above Septum 16, to start somewhat earlier than anticipated.

The primary water ring main inside the SPS tunnel will be drained in the middle of June as part of a major renovation programme. However, this water main also serves the principal SPS fire-fighting system. To ensure that the Fire Brigade have access to water in the event of an emergency, large temporary water reservoirs are being installed at each point (see picture 3).

Simon Baird

# Interview with Cédric Villani

On 21 May this year, CERN had the pleasure of welcoming the mathematician Cédric Villani as part of the series of lectures organised by the *Groupement des Français du CERN*. The *CERN Bulletin* took the opportunity to ask him a few questions.

**CERN Bulletin:** This is your first visit to CERN – how have you found it?

**Cédric Villani:** It has been instructive and moving, both because of the theoretical research that CERN makes possible and because of the technological feat that it represents – truly a technological work of art!

**CERN Bulletin:** You are currently working on Riemannian geometry problems. Is there any link between this work and the research carried out at CERN?

**Cédric Villani:** All the work that I've done in mathematical physics builds on classical physics problems – problems that do not require me to draw on quantum mechanics, relativistic mechanics, infinitesimal or infinite quantities. In this sense, my work is completely unrelated to CERN's research. That said, a page in the history of physics is being written here now, and one can't help being interested.

**CERN Bulletin:** CERN enjoys an undeniably cosmopolitan working environment. Do you think that this is an asset for scientific research?

**Cédric Villani:** European cooperation comes into its own when there is a large project to be realised for which it's really essential to pool our expertise, whether for CERN, ITER or ESA and so on. CERN is a very good example of what the countries of Europe can do when they join forces.

**CERN Bulletin:** The discovery of the Higgs boson is the successful culmination of many years of research. What are your thoughts on the subject?

**Cédric Villani:** The discovery of the Higgs boson is an extraordinary accomplishment! The verification of this theory has required the deployment of considerable resources; it is pretty impressive, all of



Cédric Villani (left), at SM18, alongside Frédéric Bordry, head of CERN's Technology Department, is the director of the Institut Henri Poincaré and professor at the Université Claude Bernard Lyon 1. He was awarded the Fields Medal in 2012 for his work on Landau damping and the Boltzmann equation.

this technology built to serve the human mind. Putting it rather more grandiosely, we could say that it is a real triumph of the human mind over what we don't understand. After the event, critics will say that it was a bit of a let-down in the end, as it is exactly what was expected. What are we going to do now?! I have confidence in my high energy colleagues to answer that question; they will find worthwhile projects to take on and fascinating theories to test.

**CERN Bulletin:** If you could uncover the answer to one of the mysteries of mathematical physics, which one would you choose?

**Cédric Villani:** Phase transition, without a doubt. What is its ultimate mathematical genesis? That's an essential question. It's not a yes or no question - we know that phase transitions occur - it's more a question of how. For mathematicians, the

more important question is often "Why is such-and-such a phenomenon true?" rather than "Is this phenomenon true?"

**CERN Bulletin:** What would you be doing if you hadn't pursued mathematics?

**Cédric Villani:** As a child, my passion was palaeontology. It's a very difficult discipline, involving a lot of painstaking work. Imagination, tenacity and rigour are the three qualities of both the palaeontologist and the mathematician. In mathematics, imagination is perhaps the most important; in palaeontology, it is undoubtedly tenacity.

Interview by Anais Schaeffer

# Now playing in a browser near you: TEDxCERN

Earlier this month, CERN played host to one of the hottest, hippest and most educational parties around: TEDx. The event brought together thousands of viewers, speakers and participants from around the world.



The **TEDxCERN event** was the hottest ticket in town – and those who couldn't make the event in person turned up online! More than 1,000 TEDxCERN fans watched the event via simulcast at **viewing parties held in 27 institutions**, but dominating the audience were the 10,870 unique viewers who tuned in to the live webcast, along with over 300 people who joined the webcast from CERN and another 300 watching it live from the Globe of Science and Innovation at CERN.

cartoon characters explain **the beginning of the universe for TED-Ed**, opera singers extol **the virtues of caffeine**.... and there are even more where those came from!

Read the Bulletin article "**Multiplying Dimensions**" by Sergio Bertolucci for a full recap of the event. Then visit the **TEDxCERN website** for even more images, videos and content!

Katarina Anthony

But if you missed the excitement, never fear. Videos of the talks, as well as the clips presented during the talks themselves, are now available online. Just head to the TEDxCERN homepage and catch up! Watch as researcher Maya Tolstoy discusses **seafloor earthquakes**, Google Science Fair winner Brittany Wengler describes **how to make a neural network in your bedroom**,

## ACCU: a committee that addresses Users' needs

This year, the Advisory Committee of CERN Users (ACCU) celebrates its 25<sup>th</sup> anniversary. Created in its modern form in December 1988 - at a time when the number of users was about 1,500 - the committee still defends the interests of today's users, now numbering around 11,000.

Actually, the first **ACCU** was established in 1977. Demanded by the rising number of Users, the need for such a committee arose during the 127<sup>th</sup> Meeting of Committee of Council: "In view of the large number and diversity of CERN Users, it has become apparent for some time that it would be useful to have an organised channel of consultation between the CERN direction and a representative group of CERN Users."

Michael Hauschild, ACCU Secretary since 2010, explains: "At that time, there were fewer ACCU members, and not all the countries were represented. With the birth of the modern form of the committee, in 1988, the decision to have representatives from all CERN countries was made. So, today, 23 countries plus CERN and the non-member states are represented in the ACCU, which totals 33 delegates."

Four times a year, the ACCU meets to discuss topics the delegates have put on the agenda, topics based on their own experience or those suggested by users. "CERN Users have different needs to staff," explains Michael. "This year, for example, the health insurance question is one of our 'burning topics'. Indeed, Users and their family are not automatically covered by the CERN health insurance scheme CHIS. If they are insufficiently insured while at CERN, they have to find a solution by themselves, which can be complicated and expensive." To solve this problem, CERN did a market survey to find competitive insurance for CERN Users.

At each ACCU meeting, several regular reports are produced: news from the CERN Management, usually given by the Director-General; a report on services

from the GS Department covering all the different services that CERN provides; Users' Office News, in which information is given on possible changes of registration procedures for users, visa matters, host state relations and similar issues; and finally, reports from ACCU representatives in other committees.

Anaïs Schaeffer

# n\_TOF: a new experimental area under way

On Thursday 23 May, CERN celebrated the laying of the foundation stone of the new experimental area (EAR-2) of n\_TOF – CERN's neutron source facility\*. Under a mild sun, Rolf Heuer, CERN Director-General, Enrico Chiaveri, spokesperson for the n\_TOF collaboration, Frédéric Bordry, head of CERN's Technology Department, and other important figures at CERN raised their glasses to the launch of this new scientific adventure.

"This new experimental area is very important as it shows the diversity of the science we are doing at CERN," says Rolf Heuer. "One of the Laboratory's goals is to build infrastructures and to do science that is unique, or at least world leading. And that is exactly what we are doing here."

The n\_TOF collaboration is taking advantage of the long shutdown (LS1) for the construction of its new facility, which is expected to receive its first beams in summer 2014. "In this area, we will be able to do measurements that cannot be done in any other neutron facility," adds Enrico Chiaveri. "We will perform measurements for astrophysics, medical applications, etc. We are also poised to welcome new partners from all over the world, attracted by the incomparable possibilities offered by EAR-2."

"It was a real challenge to fit the construction of this extension into LS1," admits Frédéric Bordry, "but we managed it, after much negotiation with the n\_TOF collaboration. This installation really is unique in the world and I'm sure that the extension will allow us to go even further as it will provide a greater neutron flux, allowing improved sensitivity for n\_TOF's various experiments."

Anais Schaeffer



Rolf Heuer, CERN Director-General, driving a backhoe at the EAR-2 foundation stone laying ceremony.

\*For more details about the new n\_TOF experimental area, read the article "[CERN's neutrons fly higher](#)" published in the Bulletin 26-27/2012.

## FameLab Switzerland: a CERN PhD student triumphs

Would you be able to explain your work to a non-specialist in just three minutes? On Friday 24 May, the Swiss national final of FameLab saw six young researchers from CERN attempt just that. FameLab is an international competition in the style of a TV talent show, seeking out the next generation of talent in science communication.



Participants in the Swiss national final of FameLab alongside Deni Subasic, presenter of the event (far left), on Friday 24 May.

Having qualified from the Geneva heat held in the Globe in March, the six CERN representatives took to the stage in Moods bar in Zurich. As well as particle physics, from the fundamental building blocks (literally) of the Standard Model to medical applications, the line-up featured immunology, neurology and genetics.

Although slideshows are strictly banned from FameLab, other visual props are strongly encouraged. For instance, Piotr

Traczyk (CMS) represented the apparent chaos of particle collisions by throwing together two decks of cards.

The finalists had also received an additional weekend's worth of training from professional stand-up comedian Timandra Harkness. Technical engineering project associate Hugo Day commented: "Meeting the other competitors [at the training weekend] was a great way to get more inspiration and confidence, to try some more outlandish ideas, and for getting a group to do future events."

Although all nine participants' talks received high praise from live and online audiences alike, there could only be one winner. Zurich-based judges Daniel Kiper, Monika Clavsen and Florencia Canelli found that LHCb PhD student Donal Hill gave the best performance, concluding that "Donal's talk was clear and understandable all the way through."

This victory puts Donal through to the international semi-finals on 6 June, as part of Cheltenham Science Festival. He will be up against national winners from

19 other countries around the world, competing for a place in the international final on 7 June. Donal said: "I'm very excited! The opportunity to be part of the Cheltenham Science Festival is something I'm really looking forward to, and to compete against other young scientists from across the globe will be a great experience. Winning the international final would be fantastic, but the real prize is getting another chance to bring science to a wider audience."

Alexander Brown

You can watch the international final live online, starting at 7:30 p.m. (CEST) on 7 June 2013, at this link: <http://www.famelab.org/live-stream/>

# CERN Relay Race: sporty and colourful

On Thursday 23 May, the 43<sup>rd</sup> CERN Relay Race took place, with 108 teams on the starting line, the largest participation ever!

The DG was present at the start and said a few words to encourage the runners. At 12:15, the Solar Club and handbike racers, led by Jean-Yves Le Meur, were the first to set off. And as last year, the relay runners were accompanied by an enthusiastic group of Nordic walkers.

The first team across the finish line was "Velo City", in a very fast time of 10'31". New this year was a prize category for the best fancy dress, which was won by *Les Schtroumpfs* from the BE Department. The challenge for the best represented department was won for the third year in a row by FP, but second and third were HR and IT, up from 6th and 9th places last year.

Andy Butterworth, CERN Running Club



## Highlights from e-EPS: Physics league... for kick-ass students

e-EPS News is an addition to the *CERN Bulletin* line-up, showcasing articles from e-EPS – the European Physical Society newsletter – as part of a collaboration between the two publications.



The International Association of Physics Students (IAPS), the Dutch umbrella organisation for physics study associations (SPIN) and the physics students association in Utrecht (A-Eskwadraat) have launched a new contest challenging physics undergraduate students. The first edition of the Physics League Across Numerous Countries for Kick-ass Students (PLANCKS) will be organised in April 2014 in Utrecht, the Netherlands.

The competition focuses on theoretical physics problems to be solved by participating teams. Some sample exercises are already available on the [PLANCKS website](#).

The goal of the competition is to increase the international collaboration, social activities and personal development of individual contestants. By bringing together physics students from different parts of the world, a setting to exchange ideas and experiences in a challenging environment will be created.

Students who want to participate must form a team of four people from the same country. A national competition will have to be organised to select the best three teams per country. The PLANCKS organisers encourage universities, national learned societies and national student associations to organise the selection and to disseminate the contest.

Bénédicte Huchet



## Virtue ethics and its applications

**"Virtue ethics provides managers and business leaders with an opportunity to ask themselves what kind of people they become through their actions and how their decisions impact the lives of others. It gives them a chance to consider what kind of business environments and cultures they should build, how business goals, policies and procedures foster positive or negative learning in their employees and what kind of societies they contribute to developing through their operations and the products and services they offer."<sup>(1)</sup>**

During our work at CERN or in our institutes, we do not only produce deliverables and services, but we also develop abilities and competencies that shape our personalities. Not only do we transform the image of the Laboratory and the vision that people have about the physical world, but we also transform ourselves.

In the ancient Greek philosophy, the key to existence relied on the search for excellence, which was intimately mixed with virtue ethics in order to create a society where everyone could live in happiness. Virtue ethics puts a special emphasis on the development of human values and moral character. For example, virtue ethics can provide a tool for managers and leaders to understand their attitude towards others and their decision-making. Virtue ethics, and all its applications as described in the CERN Competency Model<sup>(2)</sup>, can provide everyone with a tool to sincerely understand his capacities and behaviour, and improve them towards excellence.

Once a disciple asked his Zen master, "What is the essence of life?" The master answered: "To do good; avoid evil!" "Oh! It is so simple that even a three-year-old child could understand it." The master then added: "Yes, probably, but even an old man cannot practise it." There is of

course some gap between understanding virtue and good ethics or the CERN Competency Model - all of them being somehow obvious to a human being - and practising them every day in the workplace, which requires good will, effort and awareness.

This is everyone's responsibility: the pursuit of excellence, not only technical, but also when it comes to virtue, morals, ethical decision making and respect towards all of us in the same way.

**Conclusion:** Good ethics is part of the job for everyone!

*Vincent Vuillemin*

<sup>(1)</sup> "Editorial Introduction: Putting Virtues Into Practice. A Challenge for Business and Organizations", by Joan Fontrodona, Alejo José G. Sison, Boudewijn de Bruin, in *Journal of Business Ethics* (2013) 113:563–565.

<sup>(2)</sup> CERN Competency Model: <http://cern.ch/competences>.

As a reminder, all previous Ombuds corners can be accessed in the Ombuds blog: [ombuds.web.cern.ch](http://ombuds.web.cern.ch)

## Language learners, don't forget the Library!

**Vous essayez d'apprendre l'anglais ? Are you trying to learn French? The Library is there to support your efforts!**

We strive to keep our language books collection up to date and we offer a selection of new books (grammars, workbooks, books for special terminology within many fields, writing guides). A great thanks to the Language Training colleagues who helped us in the selection process.

If you are attending a language course - whether you are a beginner or an advanced learner - we have plenty to offer you.

- [New English language books](#).
- [New French language books](#).

Your feedback is welcome! Please contact us by e-mail: [library.desk@cern.ch](mailto:library.desk@cern.ch)

*CERN Library*



# The Lure of Wireless Encryption

Following our article entitled "Jekyll or Hyde? Better browse securely" in the last issue of the *Bulletin*, some people wondered why the CERN wireless network is not encrypted...

There are many arguments why it is not. The simplest is usability: the communication and management of the corresponding access keys would be challenging given the sheer number of wireless devices the CERN network hosts. Keys would quickly become public, e.g. at conferences, and might be shared, written on whiteboards, etc. Then there are all the devices which cannot be easily configured to use encryption protocols - a fact which would create plenty of calls to the CERN Service Desk... But our main argument is that wireless encryption is DECEPTIVE.

Wireless encryption is deceptive as it only protects the wireless network against unauthorised access (and the CERN network already has other means to protect against that). Wireless encryption however, does not really help you. You might get a false sense of security as your traffic is encrypted between your device and the wireless hub, but further down the wire it is not. In reality, your traffic

transits the Internet in clear text apart from the first few wireless metres - unless you take additional protective measures.

Therefore, don't let yourself be lured by wireless encryption! If you are serious about privacy and encryption, ensure that your traffic is encrypted on the whole path from your local application to the remote service you are using. Check for the "S" ("secure") in your communication protocol:

- "HTTPS" for secure web browsing, as displayed in your browser's address bar;
- "IMAPS"/"POPS" for secure e-mail transfer; the default for accessing your CERN mailbox;
- "SSH" and "SCP" for secure remote access and data transfer, mainly on Linux PCs. "SSH" can even be used to encrypt other protocols, a technique called "[tunnelling](#)";
- On Windows PCs, there is also "RDP", the Remote Desktop Protocol, which is encrypted too.

Of course, there is more to encryption than this. In order to protect your privacy and undermine surveillance, take advantage of so-called "Anonymize" services like <http://www.anonymizer.com> or the [Tor network](#). These hide your IP address and channel your traffic through a proxy network, making the determination of traffic partners very difficult.

If you host sensitive or confidential data (see [the new CERN Data Protection Policy](#)), access protection and data encryption are a must! This is particularly true if you keep this kind of data on a USB stick or laptop, both of which can easily be lost or stolen while you're travelling... [TrueCrypt](#) is a good open-source on-the-fly encryption tool for data stored on Windows, Mac and Linux PCs.

For further information, please check [our website](#) or contact us at [Computer.Security@cern.ch](mailto:Computer.Security@cern.ch).

Computer Security Team



## Official news

### Next Indefinite Contract review exercise

Dear Colleagues,

We are pleased to inform you that the 2013 LD2IC exercise (selection process for the conversion of limited-duration contracts to indefinite contracts) was officially launched last week.

The vacancy notices for posts opened with a view to the award of indefinite contracts will be published on 9 August 2013 for a period of four weeks (until 8 September 2013).

The CERN Contract Review Boards (candidate interviews) will be held between the end of September and mid-November.

The LD to IC procedure, Frequently Asked Questions and a calendar for the exercise are now available in the Admin e-guide.

In addition, general information sessions on the procedure will be organised for candidates on the following dates:

DATE	TIME
TUESDAY 23 July	14:00 - 15:00
TUESDAY 13 August	14:00 - 15:00
TUESDAY 15 August	14:00 - 15:00
TUESDAY 20 August	14:00 - 15:00
THURSDAY 29 August	14:00 - 15:00
TUESDAY 3 September (if necessary)	14:00 - 15:00

Information on the location of these sessions will be provided in due course on the CERN announcements page.

HR Department



## Take note

### Cycling safety: a priority for CERN

*Two major campaigns will get under way in June: road safety for cyclists and the promotion of cycling as a means of transport, which is one of CERN's objectives in 2013.*

The first campaign will be run by the HSE team, between 3 and 15 June, in conjunction with the Reception and Access Control Service in the GS/IS Group. Its aim will be to remind cyclists of the need to use the correct equipment and to check the condition of their bikes in all circumstances. The number of people cycling at CERN keeps on increasing, but few of them wear helmets and reflective jackets, even though they are highly recommended. Cyclists become even more vulnerable on the roads, so it is important to ensure that those people particularly at risk (e.g. new users, those newly arrived in Geneva) are fully aware of the dangers and get better access to advice.

The second campaign, entitled "Bike To Work", will take place at CERN for the second consecutive year. Around 50,000 people all over Switzerland will take part in this nationwide initiative this year. At CERN, it falls within the general framework of the "Move! Eat better" campaign launched by the Medical Service. The initiative encourages CERN personnel to travel to work by bike (for some or all of the journey) throughout the month of June. Registration can be done in advance for teams with a maximum of four people (the members of each team can alternate with each other over the course of a week). Once again, particular emphasis is being placed on riding sensibly so that people can discover the joy of cycling in complete safety!

Similar initiatives have taken place in the past and measures are now being planned to improve the cycling facilities both on and around the CERN site. A specially designed exit for cyclists, which is open even outside office hours, has just been introduced on the Satigny side of the site.

For more information on the HSE Unit campaign: [hse.secretariat@cern.ch](mailto:hse.secretariat@cern.ch)

HSE Unit

### It's all about safety signs!

*Their first occurrence may date back to the Egyptian hieroglyphs, but today they can be found everywhere: on our clothes labels as care labels, in train stations and airports to guide us, during the Olympics to identify various sports, on our dashboards, etc.*



Safety wise, they are used to indicate a danger, a prohibition, an obligation, a safety exit, firefighting equipment, etc.

The HSE Unit has decided to update the 150 safety signs used on the CERN site and, to correspond with this, recently published a [Safety Guideline GS-0-0-1](#), available on the Safety Unit website.

The Guideline contains more than 150 safety signs as well as diverse information regarding the meaning of the signs, their location and how to use them. The Guideline will shortly be completed with a new Safety Rule that will replace the former Security Code A3, "Safety colours and safety signs".

Please be informed that you also have the option to create new safety signs, provided that you first get in touch with the HSE Unit.

HSE Unit



**MASQUE  
AUTO-SAUVETEUR  
OBLIGATOIRE**

### Between 3 June and 3 August, limit your electricity consumption

*CERN is normally supplied by the French 400 kV RTE/EDF network and has a reduced-power backup supply from the Swiss 130 kV ALPIQ/SIG network.*

During LS1, from 3 June to 3 August 2013, the EN-EL Electrical Engineering Group will be carrying out maintenance and consolidation work on CERN's 400 kV and 66 kV substations.

On 3 June 2013, CERN's power supply will be transferred with no interruption to the Swiss 130 kV network. The power available will technically be limited to 50 MW, a threshold which is compatible with the current level of consumption given that the warming up of the LHC's cryogenic installations is now complete.

During this critical two-month period, CERN's electricity consumption will be closely monitored by operators in the CERN Control Centre (CCC) and must be kept below 50 MW. To avoid any risk of overloading or load-shedding, the Electrical Engineering Group are asking all users to limit their consumption during this period.

Thank you for your cooperation.

EN-EL Electrical Engineering Group

### Student Concert Learning Classical Music Club

Saturday 15 June 2013 6 p.m.  
CERN Amphitheatre

Everybody is welcome - Free admission  
For more information:  
[verheyemary@hotmail.com](mailto:verheyemary@hotmail.com)



# Training & Development

## Safety Training: places available in JUNE 2013

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

### First Aiders - Basic Course

13-JUN-13, 8.15 – 17.30, in English

### First Aiders - Refresher Course

06-JUN-13, 8.15 – 12.30, in French  
06-JUN-13, 13.15 – 17.30, in French

### Habilitation ATEX niveau 1 (Habilitation ATEX level 1)

28-JUN-13, 9.00 – 17.30, in French

### Habilitation électrique personnel électricien basse et haute tensions (habilitation électrique for electricians in low and high voltage)

10-JUN-13 to 13-JUN-13, 9.00 – 17.30, in English

### Laser Users

28-JUN-13, 9.00 – 12.30, in English

### Noise - Understanding the risks

14-JUN-13, 10.00 – 12.30, in French

### Radiological Protection - Controlled Radiation Area - Course A for CERN employees and CERN associates

06-JUN-13, 8.30 – 17.00, in French  
13-JUN-13, 8.30 – 17.00, in English  
14-JUN-13, 8.30 – 17.00, in English  
17-JUN-13, 8.30 – 17.00, in French  
27-JUN-13, 8.30 – 17.00, in English  
28-JUN-13, 8.30 – 17.00, in English

### Recyclage – Chariots éléveurs (refresher course for driving of forklifts)

28-JUN-13, 8.30 – 17.30, in French, with handouts in English

### Recyclage – Conduite de plates-formes élévatrices mobiles de personnel (PEMP) (refresher course for driving of cherry-pickers)

06-JUN-13, 8.30 – 17.30, in French, with handouts in English  
27-JUN-13, 8.30 – 17.30, in French, with handouts in English

### Recyclage - Habilitation électrique personnel électricien basse tension (refresher course for habilitation électrique for electricians in low voltage)

06-JUN-13 (afternoon) to 07-JUN-13 (full day), 9.00 – 17.30, in English

### Recyclage - Habilitation électrique personnel électricien basse et haute tensions (refresher course for habilitation électrique for electricians in low and high voltage)

17-JUN-13 to 18-JUN-13, 9.00 – 17.30, in French

### Recyclage - Habilitation électrique personnel non électricien tension (refresher course for habilitation électrique for non electricians)

14-JUN-13, 9.00 – 17.30, in English  
19-JUN-13, 9.00 – 17.30, in French

### Refresher course Self-Rescue Mask Training

10-JUN-13, 8.30 – 10.00, in French  
10-JUN-13, 10.30 – 12.00, in English  
17-JUN-13, 8.30 – 10.00, in French  
17-JUN-13, 10.30 – 12.00, in English  
24-JUN-13, 8.30 – 10.00, in French  
24-JUN-13, 10.30 – 12.00, in English

### Self Rescue Mask Training

06-JUN-13, 10.30 – 12.00, in English  
13-JUN-13, 10.30 – 12.00, in English  
18-JUN-13, 10.30 – 12.00, in French  
20-JUN-13, 10.30 – 12.00, in English  
25-JUN-13, 10.30 – 12.00, in French  
27-JUN-13, 10.30 – 12.00, in English

### Sensibilisation aux gestes et postures de travail (gestures and postures at work)

10-JUN-13, 9.00 – 17.30, in French

### Use of fire extinguisher – live exercises

05-JUN-13, 10.30 – 12.30, in English  
07-JUN-13, 10.30 – 12.30, in French  
12-JUN-13, 10.30 – 12.30, in French  
14-JUN-13, 10.30 – 12.30, in English  
19-JUN-13, 10.30 – 12.30, in French  
21-JUN-13, 10.30 – 12.30, in English  
26-JUN-13, 10.30 – 12.30, in English  
28-JUN-13, 10.30 – 12.30, in French

### Utilisation des équipements de protection respiratoire (Use of Respiratory Protection Equipment)

28-JUN-13, 8.30 – 12.00, in French

### Working at heights - Using a harness to prevent falling from a height

13-JUN-13, 9.00 – 17.30, in French  
18-JUN-13, 9.00 – 17.30, in English

Isabelle CUSATO, HSE Unit

## New course: "Lync – click to call and collaborate with others"

*The presentation will cover main features of Lync: initiating and receiving phone calls from Lync, chatting (Instant Message), how to stay connected as you were in your office, creating and participating in online meetings, sharing presentations/desktops with other people, using voice mailbox on Exchange, integration with Outlook, CERN Phone book, phone system etc.*

General information about Lync can be found on <http://cern.ch/lync>, softphone features of Lync are detailed on <http://cern.ch/softphone>.

Next session: 17 June 2013,  
from 11 a.m. to 12 p.m. in French.

Please register through the [Training Catalogue](#).

*Lync service and Technical training*

## Summer French courses for BEGINNERS (15 July to 3 September 2013)

We are now offering a French course for beginners.

If you are interested in following this course, you can contact Kerstin Fuhrmeister:  
Tel. 70896.

## Summer Oral Expression English course

*An English Oral Expression course will take place this summer at some time between August 19 and October 4.*

Schedule: to be determined (2 sessions of 2 hours per week).

Please note that this course is for learners who have a good knowledge of English (CERN level 7 upwards).

If you are interested in following this course, please enroll through [this link](#).

Please be sure to indicate your planned absences in the comments field so we can schedule the course.

If you need more information please send a message to [English.training@cern.ch](mailto:English.training@cern.ch).



# Technical training

If you would like more information on a course, or for any other inquiry/suggestions, please contact [Technical.Training@cern.ch](mailto:Technical.Training@cern.ch).

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

## »Electronics design

- Altium Designer: Front End Specialist (Advanced)
- Altium Designer: PCB Specialist (Advanced)
- CAO = Allegro Design Entry HDL Front-to-Back Flow v16.6
- Comprehensive VHDL for FPGA Design
- Expert VHDL for FPGA Design
- Introduction to VHDL
- LabVIEW for Experts
- LabVIEW for beginners
- Siemens - STEP7 : level 2
- Signal Integrity: Advanced GigaBit-Differential Channel Design (AGCD)
- Signal Integrity: Essential Principles of Signal Integrity (EPSI)

	Next Session	Duration	Language	Availability
	23-Sep-13 to 24-Sep-13	2 days	English	9 places available
	25-Sep-13 to 27-Sep-13	3 days	English	6 places available
	06-Jun-13	3 days	English	One more place available
	14-Oct-13 to 18-Oct-13	5 days	English	7 places available
	25-Nov-13 to 29-Nov-13	5 days	English	7 places available
	10-Jul-13 to 11-Jul-13	2 days	English	3 places available
	08-Jul-13 to 12-Jul-13	5 days	English	7 places available
	12-Jun-13 to 14-Jun-13	3 days	English	7 places available
	10-Jun-13 to 14-Jun-13	5 days	French	One more place available
	26-Jun-13 to 28-Jun-13	2 days	English	19 places available
	24-Jun-13 to 28-Jun-13	2 days	English	19 places available

## »Mechanical design

- AutoCAD - level 1
- AutoCAD Electrical
- CATIA-Smartteam Basics
- SmarTeam - CATIA data manager at CERN

	Next Session	Duration	Language	Availability
	12-Sep-13 to 20-Sep-13	4 days	French	4 places available
	14-Oct-13 to 18-Oct-13	5 days	French	2 places available
	16-Sep-13 to 11-Oct-13	10 days	English	4 places available
	23-Sep-13 to 25-Sep-13	3 days	French	8 places available

## »Office software

- EXCEL 2010 - Level 2: ECDL
- Expression Web - Level 1 (former Sharepoint Designer or Frontpage)
- Indico Advanced - Conference Organization
- Indico for beginners - Meeting Organization
- Lync – click to call and collaborate with others
- PowerPoint 2010 - Level 1: ECDL
- WORD 2010 - level 1 : ECDL

	Next Session	Duration	Language	Availability
	16-Sep-13 to 17-Sep-13	2 days	French	6 places available
	26-Sep-13 to 27-Sep-13	2 days	English	5 places available
	13.juin.13	3 hours	French	7 places available
	13.juin.13	2 hours	French	7 places available
	17.juin.13	1 hour	French	44 places available
	13-Jun-13 to 14-Jun-13	2 days	French	2 places available
	24-Jun-13 to 25-Jun-13	2 days	French	5 places available

## »Software and system technologies

- Core Spring
- Drupal Site Developing
- ITIL Foundations (version 3) EXAMINATION
- Intermediate Linux System Administration
- Introduction to Linux
- JAVA - Level 2
- JCOP - Finite State Machines in the JCOP Framework
- Le Langage C (ANSI et C99)
- Oracle Certified Professional
- PERL 5 - Advanced Aspects
- Python - Hands-on Introduction

	Next Session	Duration	Language	Availability
	23-Sep-13 to 26-Sep-13	4 days	English	3 places available
	04-Jul-13 to 05-Jul-13	16 hours	English	4 places available
	12.juin.13	1 hour	English	12 places available
	19-Jun-13 to 25-Jun-13	5 days	English	9 places available
	12-Jun-13 to 14-Jun-13	3 days	English	7 places available
	06-Jun-13	32 hours	English	2 places available
	24-Jun-13 to 26-Jun-13	3 days	English	5 places available
	16-Sep-13 to 19-Sep-13	4 days	English	7 places available
	17-Jun-13 to 21-Jun-13	5 days	English	2 places available
	20.sept.13	1 day	English	7 places available
	08-Jul-13 to 11-Jul-13	4 days	English	One more place available

## »Special

- CST PARTICLE STUDIO

	Next Session	Duration	Language	Availability
	08-Oct-13 to 09-Oct-13	2 days	English	9 places available



# Seminars

## WEDNESDAY 5 JUNE

### 2013 EUROPEAN SCHOOL OF HIGH-ENERGY PHYSICS

**Starts 5 Jun 2013 12:00**  
**Ends 18 Jun 2013 13:00**

PARÁDFÜRDŐ, HUNGARY

## FRIDAY 7 JUNE

### PARTICLE AND ASTRO-PARTICLE PHYSICS SEMINARS

#### 14:00 QCD at small transverse momentum

IGNAZIO SCIMEMI (UNIVERSIDAD COMPLUTENSE MADRID)

(EUROPE/ISTANBUL)

AT TR

## MONDAY 10 JUNE

### HUPP GROUP - TURKISH STUDENTS MEETINGS

#### 21:00 Next Hupp Meeting

GINO ISIDORI (INFN, ITALY)

CERN ( 222-R-001 - FILTRATION PLANT )

## TUESDAY 11 JUNE

### TH STRING THEORY SEMINAR

#### 14:00 TBA

CERN ( 4-3-006 - TH CONFERENCE ROOM )