

The magic of knowledge exchange

The screenshot shows the homepage of the CERN Global Network. At the top, there's a large photo of a diverse group of people. Below it, a video player shows a man speaking. To the right, there's a 'Log in' section and a 'Sign up' button. The main content area has a heading 'Find old and new colleagues. Find partners for projects.' and a sub-section with a quote from the Director General about knowledge transfer.

On 29 April, CERN's Knowledge and Technology Transfer (KTT) Group launched the CERN Global Network, a tool whose aim is to facilitate knowledge exchanges inside and outside CERN. "Among the greatest ambassadors of knowledge are people who have been trained and educated at CERN and also at other institutes: here is where the Global Network comes into play", says Rolf Heuer, CERN Director-General.

"During the first phase, the Network will be open to current and former members of the CERN personnel, that is, staff, fellows, apprentices, associates, students and users", explains Claudio Parrinello, Head of the Knowledge and Technology Transfer Group. The Network will offer members the possibility to keep in touch or get back in touch

with colleagues, identify experts across the Network in specific domains, possibly leading to new partnerships, and participate in groups and discussion forums. "There are many existing CERN-related networks (such as experiment collaborations, the Pensioners' Association, etc.), which contribute to knowledge exchange, and the Global Network is designed to provide a cross-link between them" he says.

In the second half of the year, the Network will be opened to research institutes from all over the world, and to companies in the Member States. "We will introduce features, such as the posting of job vacancies, which will connect job seekers with

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Nos 18, 19 & 20 – 5, 12 & 19 May 2010



A word from the DG



Forging a global community for science and innovation

This week, CERN is launching the CERN Global Network, which responds to a real need for us to keep in touch, to share our knowledge and expertise, and to build on the fantastic resource of the CERN community broadly defined.

Here at CERN, we pride ourselves on the cross fertilization of ideas that occurs when people from around the world come together for a common goal. The Network extends that to our alumni and to our partners

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A word from the DG

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Forging a global community for science and innovation

in academia, commerce and industry, allowing expertise to be shared among all its members. The CERN Global Network is open to anyone who works or has worked at or with CERN at any time. You don't get much more inclusive than that.

In an increasingly competitive world, knowledge transfer is vitally important for an organization like CERN. The primary outcome of our basic science is knowledge, but what use is knowledge if it's confined to a select few? The people who drew up the CERN Convention over half a century ago saw the importance of transferring knowledge when they wrote that CERN should do its utmost to make the results of its research as widely known as possible. That spirit has always driven CERN's open and transparent approach to communication, and the Network is the next logical step. It will help us to disseminate knowledge as far as possible, and to share expertise within a wide constituency.

Furthermore, the nature of our knowledge and expertise is not confined to scientific and technical domains, but also encompasses experience with how people of very differing cultures and backgrounds can work harmoniously together.

As of this week, the Network is open to all current and former members of the CERN personnel, who are invited to join and create their profiles on the Network's website. As of the summer, once the website is populated, the Network will go live to a wider community encompassing research institutes the world over and companies in CERN's Member States. In short, it's time to get better connected at <http://globalnetwork.cern.ch>.

Rolf Heuer

LHC progress report

This very successful weekend had been preceded by hard work on the accelerator side. A factor 5 improvement in luminosity was achieved by "squeezing" (reducing) the beam sizes at all four interaction points.

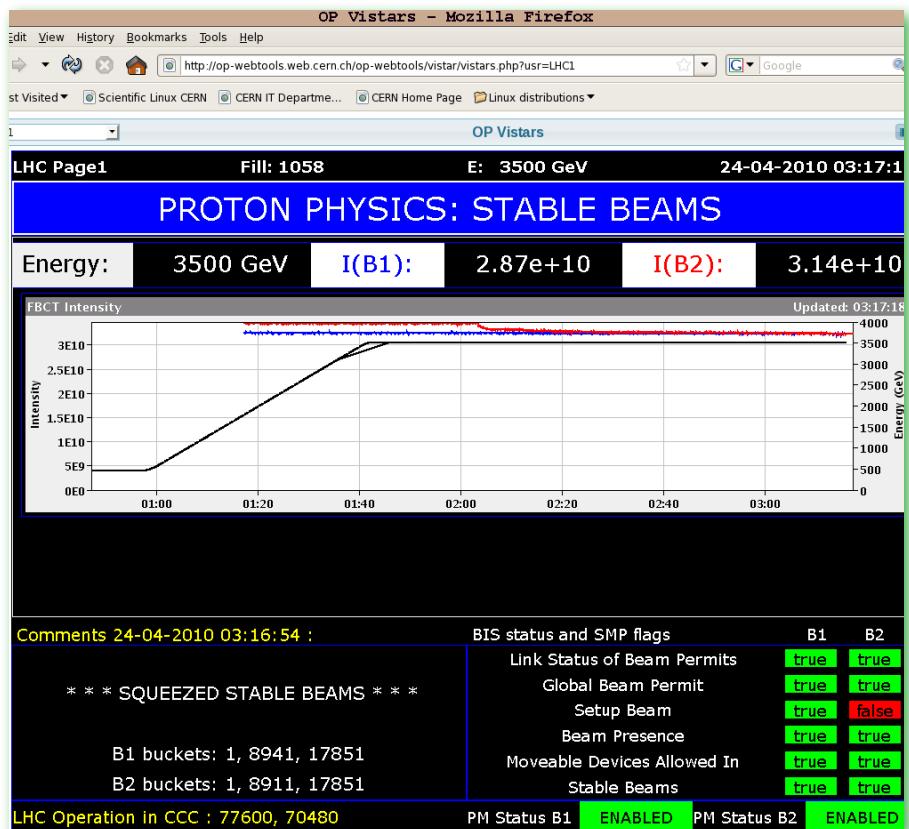
This process, one of the most complex stages in the operation of the accelerator, was finalised the week before. Once the machine is "squeezed", the experimental insertions become aperture bottlenecks for the beam. The squeeze was therefore followed by a number of collimation and beam dump tests to verify sufficient protection of the experiments. The first physics fill with squeezed optics was then prepared early on Saturday morning. A new 3 bunch scheme was used to provide another factor 2 improvement for luminosity. With the increased beam intensity the machine passed for the first time beyond the limit of the set-up beam, at which point all masked interlocks are automatically unmasked. Having smoothly passed this final hurdle, the beams were put into luminosity production on Saturday morning and collisions were optimized. Beams were finally used for

Last weekend saw a record physics fill with a tenfold increase in instantaneous luminosity (event rate from collisions), marking an important milestone for the LHC. This physics fill did not only establish luminosities above $1.1 \times 10^{28} \text{ cm}^{-2} \text{ s}^{-1}$ in all four experiments but was also kept in "stable beam" mode for a new record length of 30 hours. The particle physics experiments were able to more than double the total number of events so far recorded at 3.5 TeV.

end-of-fill studies and then dumped, after 30 hours of unperturbed physics running.

In the first part of this week, the monthly scheduled technical stop has taken place to allow the necessary maintenance of the LHC equipment and in particular of the cryogenics system. This is required in order to maintain the good operation efficiency of the LHC machine. Since Thursday morning the two beams have been circulating again. The programme for the next weeks features the setting-up of the machine and the machine protection for higher bunch intensity. This will lead initially to collisions at 450 GeV with a bunch population close to nominal values and later to 3.5 TeV collisions, with squeezed optics and increasingly higher intensities to deliver more and more luminosity to the experiments.

CERN Bulletin



It's time for physics

Retracing and rediscovering known particles is part of the training process that the LHC experiments are diligently going through during these first weeks of operation. "Just as much as

for the LHC machine, the performance of the many different parts of the experiments has to be carefully tested and thoroughly understood in order to make sure that the data are correctly interpreted", says Sergio Bertolucci, Director for Research and Computing.

Many different particles are created in the proton collisions delivered by the LHC at the four experiment points, and the task

After just a few weeks of running, the LHC has already provided the experiments with millions of high-energy collisions. Physicists from all over the world are analysing the new data and retracing the particles discovered in past experiments. The W particle, discovered in 1983 by the UA1 experiment at CERN, and the B-meson, discovered in 1977 by the E288 experiment at Fermilab, have recently popped up amongst the rich harvest of information.

of the detectors is to recognize them by measuring their mass, their charge and a few other properties. That's why physicists are currently using the signals coming from known particles to verify that their detectors are working as expected.

And they are! What in the past took long years of data acquisition and analysis is nowadays performed within days. "This excellent result is due to the good perform-

ance of both the accelerator and the detectors", says Bertolucci. Indeed, although the LHC operators are still carrying out studies on the 'quality' of the beam that often prevents the experiments from collecting usable data, the 'good data' is enough to make the first re-discoveries: on 6 April, less than a week after the first high-energy collisions, ATLAS identified two W-boson candidates. A few days later, on 21 April, LHCb reconstructed the track of the first beauty particle.

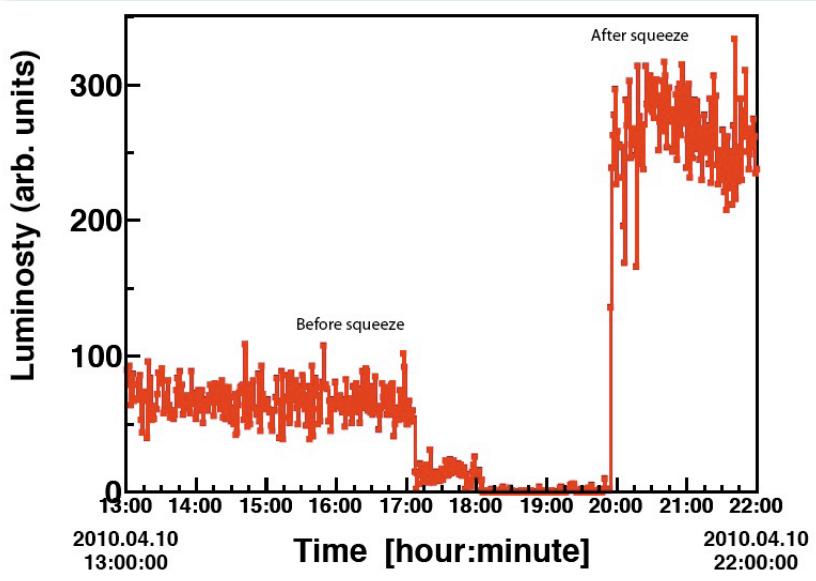
Cross-section and discovery time

How do physicists calculate the chances they have of making a discovery? The LHC experiments are looking for particles which, because of their high mass or other properties, are only rarely generated from the energy made available in the collisions.

The probability that an event, such as the creation of a given particle, takes place in the collisions is known to physicists as 'cross-section'. However, as Bertolucci explains: "one single event is usually not meaningful, and scientists need to collect a certain amount of data before really claiming a discovery". In general terms, the higher the cross-section, the shorter the time needed for the discovery.

As an example, if supersymmetric particles exist at the energies provided by the LHC, their cross-section (that is, the probability of their being formed) is expected to be relatively high and therefore the discovery is within reach in a relatively limited amount of time. On the other hand, the Higgs boson is expected to have a much smaller cross-section and therefore a longer data acquisition period will be needed to confirm its appearance (if it exists!).

CERN Bulletin



One of the first attempts to squeeze the beam at the CMS interaction point: at around 17:00 the squeeze started. Once the squeeze was over, a Luminosity scan was performed to reoptimize the beam crossing and the luminosity was indeed 5 times higher, taking into account the small beam losses which had happened during the squeeze.

Join the CERN Global Network now (<http://globalnetwork.cern.ch/portal/public/Page/Getstarted.aspx>), it's for you!

CERN Bulletin

The magic of knowledge exchange

(Continued from page 1)

potential employers. In addition, networking among participating institutions will enable the exchange of best practices", adds Parrinello.

Members are strongly encouraged to help to shape the Network. "They will be able to submit information about projects and events, and propose activities and partner-

ships", says Linda Orr-Easo, Global Network Manager. In the People section, members will have the opportunity to share their professional experience.

A unique added value of the Network is that its virtual community will be invited to participate in events organised for its members at CERN or in its Member States.

A multi-purpose technology

For the past five years Olivier Pizzirusso has worked at CERN as a technician specialising in the design and production of new-generation gas detectors known as

Micro Pattern Gas Detectors (MPGDs). "Our workshop is in Building 102, where the standard PCBs used in the Laboratory are made by CERN's industrial service contractors", explains Olivier. The workshop houses drills, UV exposure units, presses and various other equipment needed for the manufacture of PCBs (see box). Olivier and his four colleagues thus have access to all the equipment they need for creating their detectors.

Olivier, who is a specialist in electronics and PCBs, draws on his training and past experience to make the MPGDs. "Sometimes, depending on the requirements of the physicists and the engineers working in the experiments, my colleagues and I have to invent new solutions, adapt existing technologies, work with alternative materials or use different manufacturing techniques", he says.

"More specifically, I am working on the Micromega Bulk detector, one of the two types of MPGD", explains Olivier. The Micromega detector was invented at CEA/

Today, printed circuit boards – PCBs - are part and parcel of our everyday lives. We find them everywhere: in our computers, mobile phones, food processors, cars, radios, remote controls, etc. Although the associated technology no longer holds any secrets for us, its uses don't end here. Olivier Pizzirusso and his team are using the techniques involved in PCB manufacture to build the particle detectors of the future.

Saclay in 1996, but the Bulk technology was developed at CERN, by Olivier and his colleague Antonio Texeira. Today, 15 years after the first developments, the RD51 collaboration, comprising 73 universities from 25 countries all over the world, is carrying out R&D on MPGDs.

There is a chance that this type of detector will be used more and more in the experiments that are under study for future accelerators", explains Rui de Oliveira, who is in charge of the production unit in Building 102. "They are less costly at this scale and much more resistant to radiation, with an almost unlimited lifetime". This means that MPGDs have important advantages for the physicists, who have already had the chance to see what they can do in the COMPASS experiment. "The ATLAS and CMS collaborations are currently considering their use in a future phase of detector exploitation", says Rui. "Other collaborations, such as the International Linear Collider (ILC) and Compact Linear Collider (CLIC) are also interested in them."

Alizée Dauvergne

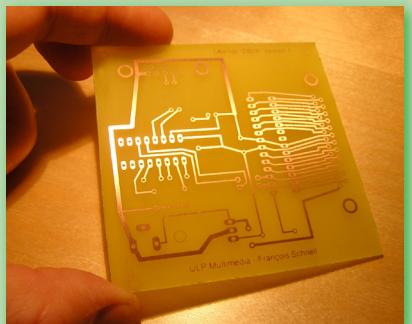
How is a simple PCB made?

A monolayer PCB (see photo) consists of a board, generally made of epoxy resin, on which electronic components connected together by conducting copper strips are mounted.

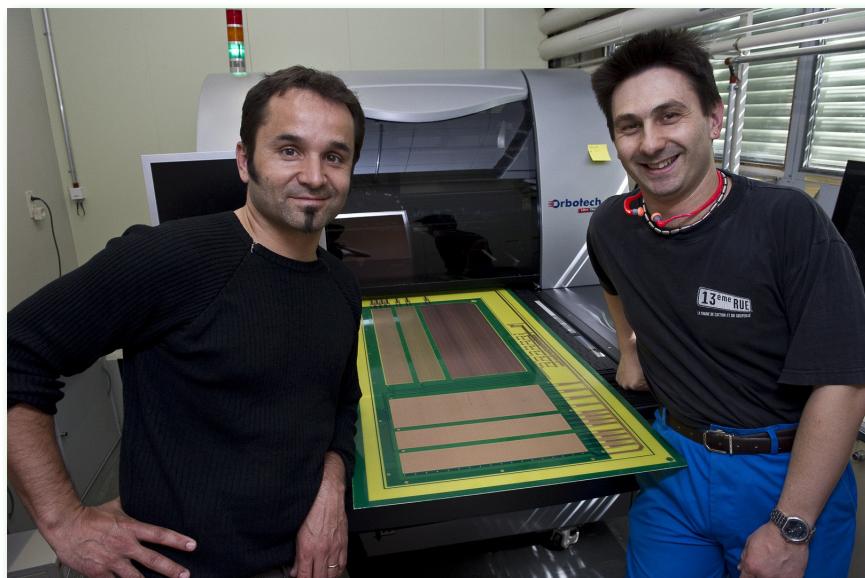
Various steps are involved in the process. The starting point is the board, which is coated with a thin layer of copper (around 35 micrometres), then a varnish sensitive to ultraviolet (UV) rays. An image of the electric circuit drawing (made in the design office) is printed onto a transparent film using a UV-opaque ink. The film is then placed on the varnish, and the whole thing is placed in a UV exposure unit. The varnish becomes fragile as a result of exposure to the UV light and is then removed using a developing solution, so that the copper protection is confined to the areas representing the electric circuit.

A chemical product, often ferric chloride, is used to attack the unprotected copper layer until it is totally dissolved. The areas of copper that are left form the wires of the electric circuit.

After the through-holes have been drilled, the electronic components (diodes, capacitors, resistors, transistors, etc.) are brazed onto the board using the tin soldering technique.



PCB before through-holes drilling and electronic components soldering (© Francois Schnell).



Olivier Pizzirusso and Rui de Oliveira in the workshop in Building 102.

Lightening the dark

In recent years, scientists have collected various evidence of the existence of a new type of matter in the Universe. They call it 'dark' because it does not emit or absorb

electromagnetic radiation. "One of the main proofs of its existence comes from the measurement of the rotational speed of astronomical bodies in spiral galaxies", explains Gian Giudice, a member of CERN's Theory group and the author of "A Zeptospace Odyssey", a recent book on LHC physics aimed at the general public. According to the Newtonian laws of motion, this value varies as a function of the distance from the centre of the galaxy: more distant objects should rotate at a lower speed than those situated nearer the centre. However, back in the 1970s, astronomers found that outer stars move at a higher rotational speed than expected. "With such a velocity, the attractive gravitational force exerted by the observable mass would not be enough to keep those stars in the galaxy, and stars would simply escape", continues Gian Giudice. Therefore, something must exist that keeps the galaxy together by exerting gravitational attraction.

About 96% of the Universe is in the form of unknown matter and energy. The rest – only 4% – is the 'ordinary matter' that we are made of and that makes up all the planets, the stars and the galaxies we observe. The LHC experiments have the potential to discover new particles that could make up a large fraction of the Universe.

"The second strong piece of evidence suggesting the existence of dark matter comes from the 'gravitational lensing' effect, in which galactic clusters bend the light coming from more distant objects. The way the light is deviated shows that the total mass contained in the clusters must be much larger than what we observe", explains Giudice. Moreover, studies on the way in which the initial atoms and molecules formed in the Universe show that ordinary matter cannot account for more than 4% of the Universe. This fact allows scientists to exclude the possibility that invisible matter is made of massive objects such as Jupiter-sized planets. On the other hand, theory and observations do not exclude that dark matter is made of primordial black holes in which large amounts of matter could be trapped. However, this latter possibility seems very remote, and scientists tend to think that dark matter is made of a new type of particle.

How could the LHC help enlighten physicists?

"The yet undiscovered dark matter has to meet some requirements imposed by observations and theory", says Gian Giudice. "It has to be stable, it has to carry no charge, and it has to be relatively heavy".

Through studies on the evolution of the Universe, scientists have been able to infer the mass of the dark matter constituents, situating it between 100 GeV and 1 TeV (for reference, the mass of the proton is about 1 GeV). Interestingly enough, this is exactly the same mass range in which theories beyond the Standard Model anticipate the existence of new particles.

"The LHC will explore exactly that range of energies. Therefore, if new particles exist, the LHC has a big chance of finding them", confirms Gian Giudice. He adds: "The theoretical supersymmetric model suggests three possible candidates for dark matter: the neutralino, the gravitino and the sneutrino. However, it is important to note that supersymmetry is not the only possible scenario".

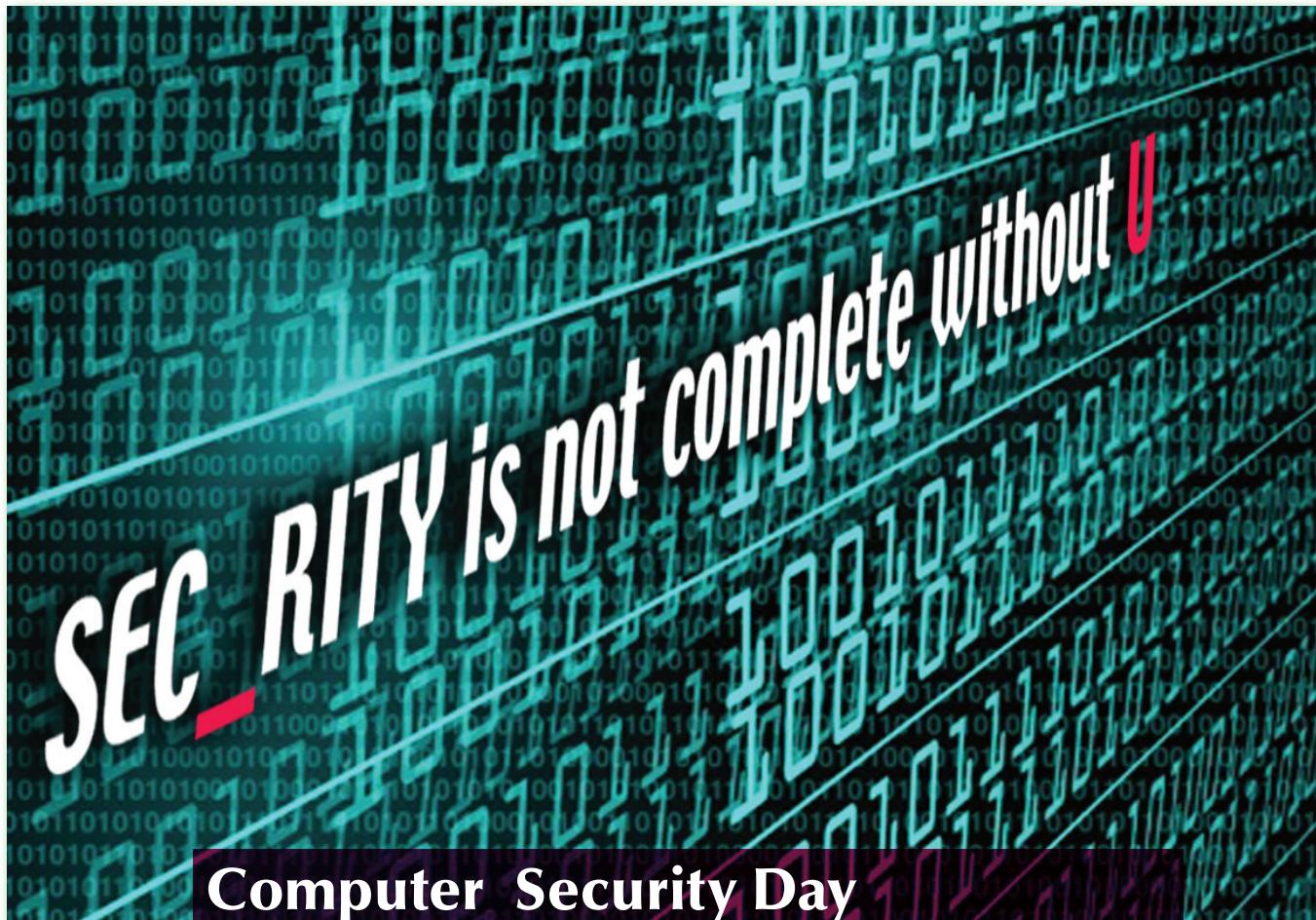
Besides the whole plethora of possible alternative scenarios, even if the LHC experiments find evidence of new particles, it will not be possible to claim that they are the actual components of dark matter. For this, confirmation will be needed from other dedicated experiments (see box).

Francesco Poppi



From deep inside the Earth to outer space

Other experiments are searching for the elusive dark matter particles. Some of them, such as the CDMS experiment at the Soudan Underground Laboratory in Minnesota, and the XENON and DAMA experiments at the Gran Sasso Laboratory in Italy, are installed underground. Others, such as Pamela and Fermi (also at Gran Sasso), are in orbit around our planet.



Viruses, phishing, malware and cyber-criminals can all threaten your computer and your data, even at CERN! Experts will share their experience with you and offer solutions to keep your computer secure.

Thursday, 10 June 2010, 9.30, Council Chamber

Make a note in your diary!

Presentations in French and English:

How do hackers break into your computer?

Quels sont les enjeux et conséquences des attaques informatiques contre le CERN ?

How so criminals steal your money on the Internet?

Comment utiliser votre ordinateur de manière sécurisée ?

and a quiz: test your knowledge and win one of the many prizes that will be on offer!

For more information and to follow the day's events via a **live webcast** go to:

<http://cern.ch/SecDay>



The International Technical Safety Forum

This year, the meeting took place at CERN from 12 to 16 April. "This year's meeting covered subjects ranging from communication and training in matters of safety, to cryogenic safety, emergency preparedness and risk analysis", explains Ralf Trant, head of the CERN Safety Commission and organiser of this year's Forum. Radiation protection issues are not discussed at the meeting since they involve different expertise.

The goal of the Forum is to allow participants to share experience, learn lessons and acquire specific knowledge in a very open way. Round-table discussions, dedicated time for networking and presentations from all the labs are included in the official

The International Technical Safety Forum is a meeting of safety experts from several physics labs in Europe and the US. Since 1998 participants have been meeting every couple of years to discuss common challenges in safety matters. The Forum helps them define best practices and learn from the important lessons learned by others.

programme. "The Forum is much less formal than other meetings because it involves a relatively small community", says Trant.

"The round-table discussions are where we discuss our problems and our concerns", adds Keith Schuh from Fermilab. "We discuss our experiences openly, and honestly, without hiding anything. These are the moments where we learn the most". The honest sharing of experience is what allows participants to avoid making the same mistakes and also to discuss the best solutions to a common problem. "From the point of view of safety,

we are all the same lab, we all face very similar challenges and have to find solutions to similar problems", says Keith Schuh. He adds: "I remember when, a few years ago, Bill Nuttal, a chemical safety expert from CERN who is now retired, demonstrated at the Forum that some gas mixtures used in the detectors were explosive. Nobody had thought this was the case beforehand but after his demonstration we went back to our labs and introduced the safety procedures for explosive gases for our detectors that were using the same gases!"

For the time being, the Forum's participants are from Europe and the US only, with none from labs in Asia, etc. If you read this article and are a safety expert from one of these labs, please contact Ralf.Trant@cern.ch.

CERN Bulletin



The Forum's participants in front of building 40.

Novel research

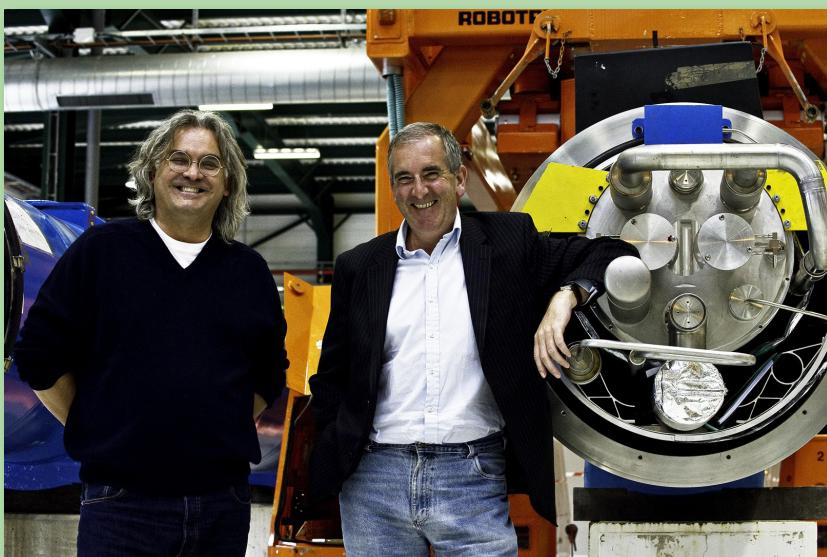
Author Robert Harris and film director Paul Greengrass visited CERN on 26 April as part of their preliminary research on an idea that Harris has for a book, which Greengrass might turn into a film. One of the characters would be a theoretical physicist from CERN – but to say more than that might give away the story!

There is definite irony in the fact that their visit was delayed for a week by the

Author Robert Harris and film director Paul Greengrass visited CERN on 26 April, passing by SM18 as well as the CCC and the ATLAS control room.

ash from the Icelandic volcanic eruption. Harris is well known for several historical novels, including 'Pompeii', which tells the story of a fictional hydraulic engineer at the time of the eruption of Mount Vesuvius in 79 AD. His latest book, 'The Ghost', became a film directed by Roman Polanski, while the latest film from Greengrass is 'Green Zone'.

CERN Bulletin



Film director Paul Greengrass (left) and author Robert Harris (right)



News from the Library

Even more books available electronically!

For several years now, the Library has been offering a large collection of electronic books in a wide range of disciplines. The books can be accessed by all CERN users with a Nice account and, like printed books, can be borrowed for a given period. In a few clicks of the mouse, you can leaf through and read books and even print parts of them from your computer. The Library catalogue now comprises a total of more than 10,000 different e-books. The long-awaited electronic versions of O'Reilly book titles are now available: 70 titles have recently been added to the Library's collection and many others will follow in the coming weeks.

This collection of books, mainly on IT subjects, is widely used in the development field. Their availability on line is thus a clear bonus.

But there's no need for fans of paper versions to worry: the Library will continue to expand its collection of printed books. The two collections exist side by side and even complement each other.

All the Library's electronic books are available at:

<http://tinyurl.com/cern-ebooks>

Books from O'Reilly:

<http://tinyurl.com/cern-ebooks-or>

Please contact
library.desk@cern.ch
for any questions and comments.

CERN Library

Ethnopoly promotes tolerance

On Friday 23 April, 225 primary school children from the eight schools in Meyrin-Cointrin and their accompanying adults took part in a big game of Ethnopoly. Private individuals, associations, administrations, shopkeepers and CERN all opened their doors to them to talk about their countries, their customs and what they are doing to promote tolerance and integration.

Scurrying from one place to another, the 10 and 11 year olds were made aware of the rich cultural diversity of their commune, which is home to 130 different nationalities. Physicists and engineers from CERN took up residence in the Forum Meyrin for the day in order to talk to the children about the advantages of international collaboration, a subject dear to the Organization's heart.

They welcomed around fifty children in the course of the day, conveying to them a message of tolerance: despite their differences, the 10,000 scientists and other members of the CERN population share a



The CERN stand set up at ForumMeyrin for the Ethnopoly game.

common language, that of science. As an illustration of international collaboration at CERN, the worldwide communications via the Grid were displayed on an interactive screen. The day's events were rounded off

with a big party, where participants had the opportunity to sample dishes from all the different countries.

CERN Bulletin

Gilles Sauvage (1939-2010)

Gilles Sauvage, a physicist from LAPP-Annecy working with ATLAS, passed away on 21 April 2010.

We will always remember Gilles' smile.

Gilles Sauvage was deeply involved in many generations of experiments at CERN as he followed the evolution of the field at the energy forefront. He started with the LAL-Orsay group in the WA2 Hyperon experiment at the SPS West Area, where he worked from 1976 to 1979. With the same group he was then a founding member of the UA2 Collaboration at the SPS p-pbar Collider, in which he was active throughout the duration of the experiment. He then moved to LAPP-Annecy in 1986 and joined first the L3 group at LEP, making important contributions to the construction, calibration, installation and commissioning of the BGO crystal calorimeter. Later, in the mid-1990s, Gilles joined ATLAS and led the LAPP-Annecy group through the intense period of the construction of one third

of the ATLAS LAr barrel electromagnetic calorimeter modules at LAPP, and followed hands-on its integration and installation at CERN. He retired in 2006, but his passion for physics motivated him to remain fully active until the last day.

Gilles was an exceptional experimentalist, who set very high standards of how to work with great human qualities in a large collaboration. He always sought the most elegant technical and scientific solutions, not accepting any easy short-cuts. His style? We never saw him acting as a big boss, but rather motivating junior and senior colleagues by setting the example of working hard on the floor over many years.

Gilles had other passions: mountains, flowers, birds and music. It was always a pleasure and a privilege to listen to him and profit from his great culture. Gilles' good mood will remain in our memories forever. Our thoughts and sympathy go to his family.



His friends and colleagues



Members of the personnel shall be deemed to have taken note of the news under this heading. Reproduction of all or part of this information by persons or institutions external to the Organization requires the prior approval of the CERN Management.

INCOME TAX IN FRANCE

MEMORANDUM CONCERNING THE ANNUAL INTERNAL TAXATION CERTIFICATE AND THE DECLARATION OF INCOME FOR 2009

You are reminded that each year the Organization levies an internal tax on the financial and family benefits it pays to the members of the personnel (see Chapter V, Section 2 of the Staff Rules and Regulations) and that members of the personnel are thus exempt from external taxation on salaries and emoluments paid by CERN.

This memorandum is intended to provide members of the personnel residing in France with information on how salaries and emoluments paid by CERN should be indicated in the 2009 income declaration form. For any other specific questions, they are invited to comply with the instructions attached to the form.

I Annual internal taxation certificate for 2009

The annual certificate of internal taxation for 2009, issued by the FP Department, has been available since 1st March 2010 (see Bulletin No. 10-11/2010). **It is intended exclusively for the French tax authorities.**

1. If you are currently a member of the CERN personnel, you will have received an e-mail containing a link to your annual certificate, which you may print if necessary. You can also access your certificate via <http://hrt.cern.ch> (open "Pay info" in the menu "My e-documents and Self Services").
2. If you are no longer a member of the CERN personnel or are unable to access your certificate as indicated above, you will find information explaining how to obtain one at the following link: https://cern.ch/admin-eguide/Impots/proc_impot_attestation_interne.asp.

II Declaration of income for 2009

1. Who is required to complete the form? Where can it be obtained?

All members of the personnel¹⁾ residing in France²⁾, whether or not they are of French nationality, are required to complete a declaration of income for

2009 and to return a signed copy to their local tax office by Monday 31 May 2010 at the latest.

Members of the personnel should receive a declaration form for 2009 at the beginning of May. Those who do not receive one automatically must obtain one from their local tax office or town hall. It is also possible to download it from the Tax Administration website (<http://www.impots.gouv.fr/>).

2. Completing the declaration form

Members of the personnel must comply with the following instructions concerning salaries and emoluments paid by CERN:

1. Under the heading "*Traitements et Salaires*" in Part 1 of the form, they **must not** indicate the amount of the financial and family benefits paid by CERN in 2009, which are subject to internal taxation by the Organization.
2. They should tick **box FV** in Part 8 of the form, "*Autres Imputations*".
3. In the box on page 2 entitled "*Autres renseignements*" they are advised to state: "*Membre du personnel du CERN assujetti à l'impôt interne du CERN et, à ce titre, exonéré d'impôt sur les traitements et émoluments versés par le CERN*" (member of the CERN personnel subject to internal CERN taxation and therefore exempt from taxation on the salary and emoluments paid by CERN).
4. They must attach to their declaration the **annual internal taxation certificate** for 2009 (to obtain it, see section I above) issued in accordance with Article R V 2.05 of the Staff Regulations.

For any other specific questions, members of the personnel are invited to refer to the instructions attached to the declaration form or to contact their local tax office directly.

Members of the personnel **must complete a HARD-COPY FORM only**.

The form cannot be completed on line since it is not yet possible to attach the above-mentioned certificate to it.

3. Special cases

Additional information on the declaration requirements applicable to users and associates may be obtained at the following address:

https://cern.ch/admin-eguide/Impots/proc_impot_decl-fr.asp

This information does not concern CERN pensioners, as they are no longer members of the CERN personnel and are therefore subject to the standard national legal provisions relating to taxation.

HR Department
Tel. 73903

1) Irrespective of the category of personnel to which they belong (see Chapter I, Section 2 of the Staff Rules and Regulations)

2) The following persons, in particular, are deemed to be residing in France:
- persons whose principal place of residence is in France (especially if their spouse and/or children reside with them), and
- persons who reside on French soil for more than 183 days (6 months) a year without any significant absences.
However, the tax office is the only authority competent to assess individual circumstances. For any specific enquiries, please contact your local tax office.



Take note

WORK ON THE EXTENSION OF RESTAURANT NO. 1

The work on the extension of Restaurant No. 1 began on 12 April and is expected to take 6 months to complete.

For safety reasons, a worksite perimeter fence has been erected on the terrace, and a watertight shielding wall has been put up inside the restaurant. Restaurant customers are requested to comply with the signs in place.

Various activities associated with the work are likely to generate noise and dust. As the terrace is used by diners in the summer, such activities will be kept to a minimum during mealtimes.

We should like to thank the customers of the restaurant for their understanding.

GS/SEM Group

CONFERENCE FOR CERN PENSIONERS

Wednesday 9 June 2010 from 2.30 p.m. to 5.00 p.m.

Auditorium in Building 30 7-018

RESEARCH PROJECT

"OPTIMUM BRAIN AGEING"

- "Initial results of the study of the population of CERN pensioners"

Dr François HERRMANN, Geneva

- "Technology and cognitive decline: prevention and compensation"

Professor Alain FRANCO, Nice, Vice-President of the IAGG (International Association of Gerontology and Geriatrics)

- Discussion with the participants

Admission free.

The presentations will be in French.

GS Department

CERN Relay Race

The CERN relay race will take place around the Meyrin site on Thursday 20 May, starting at 12.15. If possible, please avoid driving on the site during this 20-minute period. If you do meet runners while driving your car, please STOP until they have all passed.

Thank you for your cooperation.

Details on the route, and how to register your team for the relay race, can be found at:

<https://espace.cern.ch/Running-Club/CERN-Relay>

David Nisbet
CERN Running Club

40th CERN Relay Race

Thursday 20 May 2010

<https://espace.cern.ch/Running-Club/default.aspx>

Entertainment from 11:45 at the arrival zone (lawn in front of Restaurant No.1)

- 11h30 to 12h45 Jazz Concert with "San Luis Street Band" and "Atelier AMR";
- 12h45 Race start;
- 12h45 to 13h15 Rock Concert with "Malavida" and "Loubarde";
- 13h15 to 13h30 Results and prize giving ceremony (surprise gift to win in a raffle offered by the Micro Club);
- 13h30 to 14h Rock with "Malavida" and Jazz with "Gipsy Swing CERN Band".



Numerous information stands, sandwiches and salads are available for purchase, Belgian beer from the AGLUP, etc...

With the participation of the following associations:



CET TERMINOLOGY CHANGE

During 2009, an interdepartmental team composed of members of the accounting and central / departmental planning & controlling services revised the CET glossary with the aim of adapting the existing CET fields and column labels to the new vocabulary recently employed in the CERN financial rules (following the implementation of IPSAS¹) recommendations at CERN), annual accounts and, in general, in the accounting.

The AIS team in charge of CET has finalized the implementation of this glossary change. As of 13 April 2010, a standard pop-up message (CET news) appears on opening the CET session, informing users about the planned modifications.

As of 3 May 2010, a new version of CET that will contain modifications of certain fields

and column labels will be deployed. The main changes apply to the following terms: "CHARGED TO BUDGET CODE" replaces "PAID TO BUDGET CODE", "ACCRUALS" replaces "PROVISIONS" and "PAID TO SUPPLIER" becomes "INVOICE AMOUNT". In addition "NATURE" becomes "ACCOUNT" and "ACTIVITY/DESTINATION" is replaced by "PURCHASE CODE". The new CET glossary is available on line at the following link: https://dg-rpc.web.cern.ch/dg%2Drpc/Documents/CET_Glossary_UpdatedApril2010.docx.

For more information, contact kasia.pokorska@cern.ch, anna.cook@cern.ch, or catherine.poncet@cern.ch.

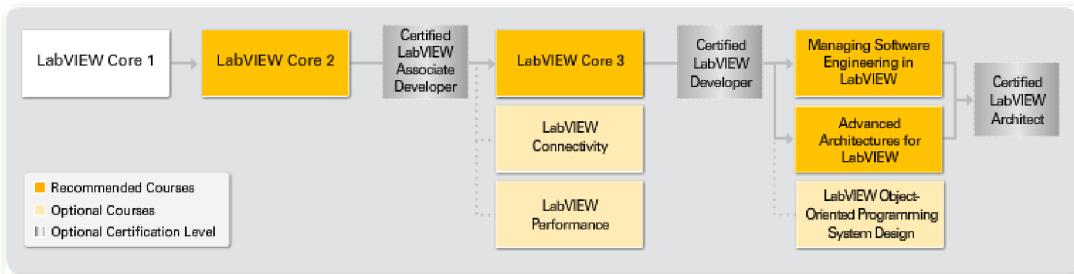
¹) International Public Sector Accounting Standards.



Technical training

Marie-Laure LECOQ 74924
ENSEIGNEMENT TECHNIQUE
TECHNICAL TRAINING
technical.training@cern.ch

LABVIEW SUPPORT AT CERN



Since the beginning of 2009, due to the CERN restructuring, LabVIEW support moved from the IT to the EN Department, joining the Industrial Controls and Electronics Group (ICE).

LabVIEW support has been merged with the Measurement, Test and Analysis (MTA) section which using LabVIEW, has developed most of the measurement systems to qualify the LHC magnets and components over the past 10 years. The post mortem analysis for the LHC hardware commissioning has also been fully implemented using LabVIEW, customised into a framework, called RADE, for CERN needs.

The MTA section has started with a proactive approach sharing its tools and experience with the CERN LabVIEW community. Its framework (RADE) for CERN integrated application development has been made available to the users. Courses on RADE have been integrated into the standard National Instruments training program at CERN. RADE and LabVIEW support were merged together in 2010 on a single email address: labview.support@cern.ch

For more information please have a look at the LabVIEW support webpages

<http://wikis.web.cern.ch/wikis/display/EN/LabVIEW+support>

CERN Technical Training: The new LabVIEW Training path.

National Instruments introduce the new LabVIEW Training path and new courses. With the LabVIEW application development training courses, you can learn recommended techniques to reduce development time and improve application performance and scalability.

The LabVIEW Core 1 with Rade Introduction course is the first step in any LabVIEW learning path. LabVIEW Core 1 introduces you to the LabVIEW environment, its features, dataflow programming, and common LabVIEW architectures in a

hands-on format. Learn to develop test and measurement, data acquisition, instrument control, data-logging, and measurement analysis applications. Participants are also informed about the RADE framework

The next session of this course will take place in English on June 7-9 2010.

The LabVIEW Core 2 course teaches you to design complete, stand-alone applications with the LabVIEW graphical development environment. This course, an extension of the LabVIEW Core 1 course, introduces you to common design techniques for successfully implementing and distributing LabVIEW applications for research, engineering, and testing environments.

The next session of this course will take place in English on June 10-11, 2010

The LabVIEW Core 3 course teaches you structured practices to design, develop, test, and deploy LabVIEW applications. You will learn recommended application development techniques such as hierarchical VI development, event-based architectures, appropriate user interface design, error handling strategies, and effective documentation. Learn how to analyze your application requirements, choose the correct design pattern and data structures for your application, and quickly test and deploy your design, so you can reduce development time and improve application performance and scalability.

The next session of this course: to be scheduled

The LabVIEW Communication with RADE applications course builds on the lessons taught in the LabVIEW Core 3 course. Learn to identify the components of integrated systems and implement networking technologies for your applications. Also extend your application functionality and reduce development time by using technologies such as DLLs, ActiveX and the Internet to

take advantage of the capabilities of other applications. Participants will also learn how to use the Rapid Application Development Environment (RADE) tools to interface with the CERN control infrastructures

The next session of this course will take place in English on 1-2 July, 2010

The Managing Software Engineering in LabVIEW course helps you cultivate the skills you need to effectively manage and deliver large LabVIEW applications in single- or multi-developer environments. This course teaches common practices for managing large, team-oriented application development projects from specification to deployment. By incorporating these application development practices in your projects, you can improve development processes and optimize applications and resources to effectively reduce development time and costs.

The next session of this course will take place in English on 8-9 July, 2010

In the **Advanced Architectures for LabVIEW course**, participate in discussions and work independently and collaboratively to learn how to architecture an application and then design the components to support the architecture. In addition, gain experience with advanced NI LabVIEW design patterns, such as functional global variables, plug-ins, X controls, and subpanels. The course concludes with an assignment that requires you to draft a system architecture and design some of the components based on the high-level system requirements your instructor gives you

The next session of this course: to be scheduled

More information on our catalogue:

<http://cta.cern.ch/cta2/f?p=110:9>

or contact us with your questions/comments at Technical.Training@cern.ch



CERN TECHNICAL TRAINING: AVAILABLE PLACES IN FORTHCOMING COURSES

The following course sessions are scheduled in the framework of the 2010 CERN Technical Training Programme and places are still available. You can find the full updated Technical Training course programme in our web catalogue (<http://cta.cern.ch/cta2/f?p=110:9>).

Software and system technologies

C++ Part 2: Object-Oriented and Generic Programming	25-MAY-10	28-MAY-10	English	3 days
CERN openlab Multi-threading and Parallelism Workshop	04-MAY-10	05-MAY-10	English	2 days
ITIL Foundations (version 3)	31-MAY-10	02-JUN-10	English	3 days
ITIL Foundations (version 3) EXAMINATION	22-JUN-10	22-JUN-10	English	1 hour
JAVA 2 Enterprise Edition - Part 2: Enterprise JavaBeans	21-JUN-10	23-JUN-10	English	3 days
JavaScript for web development	05-MAY-10	07-MAY-10	English	3 days
JCOP - Finite State Machines in the JCOP Framework	22-JUN-10	24-JUN-10	English	3 days
JCOP - Joint PVSS-JCOP Framework	31-MAY-10	04-JUN-10	English	4.5 days
Le Langage C (ANSI et C99)	24-JUN-10	02-JUL-10	English	4 days
Object-oriented Design Patterns	10-MAY-10	12-MAY-10	English	3 days
Oracle - Programming with PL/SQL	28-JUN-10	30-JUN-10	English	3 days
Oracle Database: RAC Administration	03-MAY-10	07-MAY-10	English	5 days
Project Development using Python	29-JUN-10	02-JUL-10	English	4 days
Python: Advanced Hands-On	08-JUN-10	11-JUN-10	English	4 days
Secure coding for Java	15-JUN-10	15-JUN-10	English	1 day
Secure coding for Web Applications and Web Services	14-JUN-10	14-JUN-10	English	1 day
Secure coding in C/C++	16-JUN-10	17-JUN-10	English	2 days
Web 2.0 development with AJAX	28-JUN-10	30-JUN-10	English	3 days
Web Applications with Oracle Application Express (APEX) 3.2	23-JUN-10	25-JUN-10	English	3 days

Electronic design

Altium Designer - Advanced training for experts	17-JUN-10	17-JUN-10	French	1 jour
Altium Designer - migration for occasional PCAD users	14-JUN-10	16-JUN-10	French	3 jours
CAO = Allegro Design Entry HDL Front-to-Back Flow v16.3	28-JUN-10	30-JUN-10	French	3 jours
Certified LabVIEW Associate Developer (CLAD)	04-JUN-10	04-JUN-10	English	1 hour
Certified LabVIEW Developper(CLD)	04-JUN-10	04-JUN-10	English	4 hours
LabVIEW Communication with RADE applications	01-JUL-10	02-JUL-10	English	2 days
LabVIEW Core I with RADE introduction	07-JUN-10	09-JUN-10	English	3 days
LabVIEW Core II	10-JUN-10	11-JUN-10	French	2 days
Siemens - Simatic Net Network	17-JUN-10	18-JUN-10	French	2 days
Siemens - STEP7 : level 1	22-JUN-10	25-JUN-10	English	4 days

Mechanical design

ANSYS DesignModeler	25-MAY-10	26-MAY-10	English	2 days
AutoCAD Mechanical 2010	24-JUN-10	25-JUN-10	French	2 jours
CATIA V5 -- Drafting Advanced	16-JUN-10	21-JUN-10	French	2 jours
CATIA V5 – Surfacique 1	18-JUN-10	25-JUN-10	French	2 jours
CATIA-Smartteam Base 2	07-MAY-10	28-MAY-10	French	7 jours
CATIA-Smartteam Base1	31-MAY-10	15-JUN-10	French	6 jours
SmarTeam - CATIA data manager at CERN	17-JUN-10	17-JUN-10	French	3 jours
Vacuum for accelerators, intermediate level	14-JUN-10	18-JUN-10	French	10 heures

Office software

ACCESS 2007 - Level 2 : ECDL	06-MAY-10	07-MAY-10	French	2 jours
Dreamweaver CS3 - Level 2	27-MAY-10	28-MAY-10	English	2 days





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Marie-Laure LECOQ 74924
ENSEIGNEMENT TECHNIQUE
TECHNICAL TRAINING
technical.training@cern.ch



EXCEL 2007 - Level 2: ECDL	20-MAY-10	21-MAY-10	French	2 jours
EXCEL 2007 (Short Course II) - HowTo... Format your worksheet for printing	25-MAY-10	25-MAY-10	Bilingual	3 hours
EXCEL 2007 (Short Course III) - HowTo... Pivot tables	15-JUN-10	15-JUN-10	Bilingual	3 hours
Indico - Conference Organization	06-MAY-10	06-MAY-10	French	3 hours
Indico - Meeting Organization	07-JUN-10	07-JUN-10	French	3 hours
Individual Coaching	04-MAY-10	04-MAY-10	Bilingual	1 jhour
Individual Coaching	14-JUN-10	14-JUN-10	Bilingual	1 hour
Individual Coaching	21-JUN-10	21-JUN-10	Bilingual	1 hour
Novelties Office 2007: POWERPOINT 2007	11-MAY-10	11-MAY-10	French	1 jour
OUTLOOK 2007 (Short Course I) - E-mail	03-MAY-10	03-MAY-10	Bilingual	3 hours
PowerPoint 2007 - Level 1: ECDL	27-MAY-10	28-MAY-10	French	2 jours
Project Planning with MS-Project	17-MAY-10	18-MAY-10	English	2 days
Sharepoint Collaboration Workspace	06-MAY-10	07-MAY-10	French	2 jours
Sharepoint Collaboration Workspace Advanced	18-MAY-10	18-MAY-10	English	4 hours
Sharepoint Designer (Frontpage) - Level 2	10-JUN-10	11-JUN-10	French	2 jours
WORD 2007 - level 2 : ECDL	03-JUN-10	04-JUN-10	English	2 jours
WORD 2007 (Short Course II) -	17-MAY-10	17-MAY-10	Bilingual	3 hours
Working with long document: styles and tables of contents				

Special course

Egroups training	21-MAY-10	21-MAY-10	French	3.5 heures
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If you are interested in attending any of the above course sessions, please talk to your supervisor and/or your DTO, and apply electronically via EDH from the course description pages that can be found at: <http://cta.cern.ch/cta2/f?p=110:9> under 'Technical Training' with the detailed course program. Registration for all courses is always open – sessions for the less-requested courses are organized on a demand-basis only. CERN Technical Training courses are open only to members of the CERN personnel (staff members and fellows; associates, students, users, project associates; apprentices: employees of CERN contractors, with some restrictions). In particular, quoted prices and programmes refer specifically to the CERN community.



CERN TECHNICAL TRAINING - NEW COURSES AVAILABLE AT CERN!

1. - The "JavaScript for web development" is a 3 day course.

This hands-on JavaScript training course provides the knowledge needed to design and develop dynamic web pages using JavaScript. It introduces students to JavaScript and how the language can be used to turn static HTML pages into dynamic, interactive web pages.

Students will learn the syntax of the JavaScript language, the Document Object Model, form validation, cookies, how to create functions.

This course is for Web programmers who want to learn how to make their Web pages more interactive by using JavaScript.

The course will take place, in English, from 5 to 7 May 2010 in the CERN Technical Training Centre.

Registrations are open on the Technical Training page. For more information on our catalogue or for questions/comments, contact us at Technical.Training@cern.ch

2. - The "Web 2.0 development with AJAX" is a 3 day course.

This hands-on AJAX course provides the knowledge needed to design and develop Web 2.0 websites.

Through a series of lectures and practical examples you will learn the power of the JavaScript XML Http request object and how it can be used to add advanced interactivity to your website.

This course gives an overview of the main AJAX frameworks and Web 2.0 techniques.

The course will take place, in English, from 28 to 30 June 2010 in the CERN Technical Training Centre.

Registrations are open on the Technical Training page. For more information on our catalogue or for questions/comments, contact us at Technical.Training@cern.ch

3. - "CAO = Allegro Design Entry HDL Front-to-Back Flow v16.3" is a 3 day course.

In this course, you will learn how to create board-level schematic designs with Design Entry HDL. You will explore the integration between Design Entry HDL and other tools in the design flow, including the Allegro® PCB Editor. You will follow the actual design flow by creating a schematic and taking it all the way through board layout.

Although board layout is introduced as part of the front-to-back flow, this is not a board layout course.

The course will take place, in English, from 28 to 30 June 2010 in the CERN Technical Training Centre.

Registrations are open on the Technical Training page. For more information on our catalogue or for questions/comments, contact us at Technical.Training@cern.ch

HR Department





Safety Training Course



SAFETY TRAINING: PLACES AVAILABLE IN THE FORTHCOMING SESSIONS IN MAY

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

May 2010:

Confined spaces – for supervisors	4 May	French	1 day	09:00 – 17:30
Laser safety	5 May	French	4 hours	13:30 – 17:30
Radiological Protection	7 May	English	4 hours	13:30 – 17:30
Secourisme - Cours de recyclage	7 May	French	4 hours	08:30 – 12:30
Secourisme - Cours de recyclage	7 May	French	4 hours	12:30 – 17:30
Cherry-picker driving (basic course)	10-11 May	French	2 days	08:00 – 17:30
Habilitation électrique :				
Personnel électricien effectuant des opérations du domaine de tension BTA	10-11 May	English	2 days	09:00 – 17:30
Biocell Training	11 May	French	1.5 hour	08:30 – 10:00
Biocell Training	11 May	French	1.5 hour	10:30 – 12:00
Radiological Protection	11 May	English	4 hours	08:30 – 12:30
Sécurité Radiologique	11 May	French	4 hours	13:30 – 17:30
Biocell Training	13 May	English	1.5 hour	08:30 – 10:00
Biocell Training	13 May	English	1.5 hour	10:30 – 12:00
Biocell Training	18 May	English	1.5 hour	08:30 – 10:00
Biocell Training	18 May	English	1.5 hour	10:30 – 12:00
Biocell Training	20 May	French	1.5 hour	08:30 – 10:00
Biocell Training	20 May	French	1.5 hour	10:30 – 12:00
Radiological Protection	21 May	English	4 hours	13:30 – 17:30
Biocell Training	25 May	English	1.5 hour	08:30 – 10:00
Biocell Training	25 May	English	1.5 hour	10:30 – 12:00
Refresh course – Cherry-picker driving	26 May	French	1 day	08:00 – 17:30
Laser Users	27 May	English	3.5 hours	09:00 – 12:30
Radiological Protection	28 May	English	4 hours	08:30 – 12:30
Sécurité Radiologique	28 May	French	4 hours	13:30 – 17:30
Secourisme – Cours de base	31 May-1st June	French	1.5 day	08:30 – 17:30





Seminars

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MONDAY 3 MAY

CERN JOINT EP/PP SEMINARS

11:00 - Council Chamber, Bldg. 503

Understanding quarkonium polarization

P. FACCIOLO / LIP LISBON

TH JOURNAL CLUB ON STRING THEORY

14:00 - Bldg. 1-1-025

TBA - F. MARCHESANO / CERN

TUESDAY 4 MAY

TH STRING THEORY SEMINAR

14:00 - TH Auditorium, Bldg. 4

TBA - I. PAPADIMITRIOU

WEDNESDAY 5 MAY

LHCC MEETING

09:00 - Main Auditorium, Bldg. 500

101st LHCC Meeting AGENDA OPEN and CLOSED Sessions

T. WYATT / UNIVERSITY OF MANCHESTER

TH COSMO COFFEE

11:00 - Bldg. 1-1-025

DBI and the Galileon Reunited

C. DE RHAM / UNIGE

ISOLDE SEMINAR

14:30 - Bldg. 304-1-001

TBA - P. SUOMINEN / CERN

FIRDAY 7 MAY

COMPUTING SEMINAR

09:30 - IT Auditorium, Bldg. 31-3-004

Concurrent Collections (CnC): A new approach to parallel programming

K. KNOBE / INTEL CORP.

DETECTOR SEMINAR

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

Alignment of the ATLAS Muon Spectrometer

C. AMELUNG / BRANDEIS UNIVERSITY

FIRDAY 7 MAY

PARTICLE AND ASTRO-PARTICLE PHYSICS SEMINARS

14:00 - TH Auditorium, Bldg. 4

Three-body final states in dark matter annihilations and decays

C. YAGUNA / AUTONOMA MADRID

MONDAY 10 MAY

TH JOURNAL CLUB ON STRING THEORY

14:00 - Bldg. 1-1-025

TBA

E. SOKATCHEV / LAPTH ANNECY

TUESDAY 11 MAY

TH STRING THEORY SEMINAR

14:00 - TH Auditorium, Bldg. 4

TBA

M. BUICAN

COMPUTING SEMINAR

16:00 - Council Chamber, Bldg. 503

Software Aspects of IEEE Floating-Point Computations for Numerical Applications in High Energy Physics

J. ARNOLD / INTEL CORP.

WEDNESDAY 12 MAY

TH COSMO COFFEE

11:00 - Bldg. 1-1-025

TBA

M. RINALDI / UNIGE

TH THEORETICAL SEMINAR

14:00 - TH Auditorium, Bldg. 4

TBA (flavour physics)

G. HILLER / UNIVERSITY OF DORTMUND AND CERN-PH-TH

MONDAY 17 MAY

CERN JOINT EP/PP SEMINARS

11:00 - Council Chamber, Bldg. 503

Anomalous soft photon production in multiple hadron processes

V. PEREPELITSA / INSTITUTO DE FISICA CORPUSCULAR (IFIC) UV-CSIC

TH JOURNAL CLUB ON STRING THEORY

14:00 - Bldg. 1-1-025

TBA

C. KOZCAZ

TUESDAY 18 MAY

TH STRING THEORY SEMINAR

14:00 - TH Auditorium, Bldg. 4

TBA

P. VANHOVE

WEDNESDAY 19 MAY

TH COSMO COFFEE

11:00 - Bldg. 1-1-025

DBI and the galileon

A. TOLLEY / PERIMETER INSTITUTE

TH THEORETICAL SEMINAR

14:00 - TH Auditorium, Bldg. 4

TBA

P. HORAVA / UNIVERSITY OF CALIFORNIA, BERKELEY