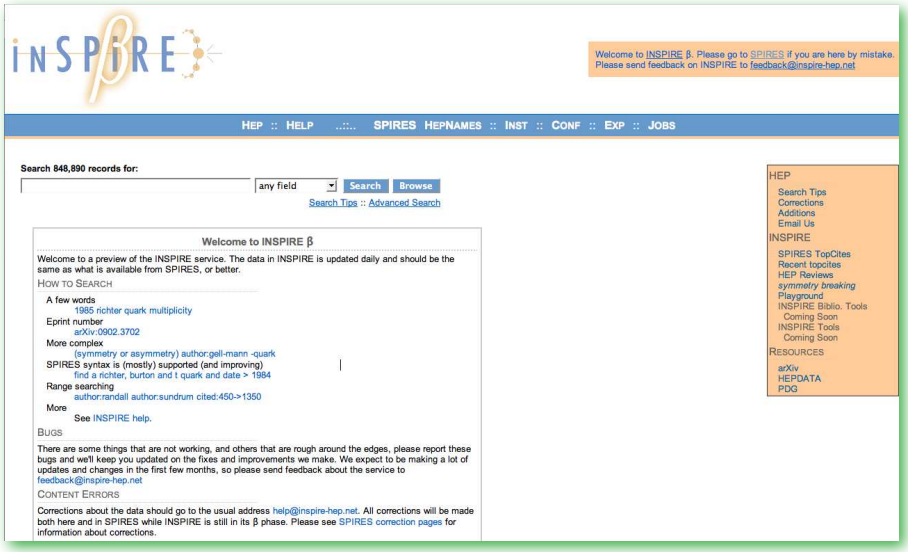
CERN Bulletin

Nos 16 & 17 – 21 & 28 April 2010

Physicists get INSPIREd



Particle physicists thrive on information. They first create information by performing experiments or elaborating theoretical conjectures and then they share it through publications and various web tools. The INSPIRE service (http://inspirebeta.net/), just released, will bring state of the art information retrieval to the fingertips of researchers.

Keeping track of the information shared within the particle physics community has long been the task of libraries at the larger labs, such as CERN, DESY, Fermilab and SLAC, as well as the focus of indispensible services like arXiv and those of the Particle Data Group. In 2007, many providers of information in the field came together for a summit at SLAC to see how physics information resources could be enhanced, and the INSPIRE project emerged from that meeting.

The vision behind INSPIRE was built by a survey launched by the four labs to evaluate the real needs of the community. INSPIRE responds to these directives from the community by combining the most successful aspects of SPIRES (a joint project of DESY, Fermilab and SLAC: http://www.slac.stanford.edu/spires/) with the modern technology of Invenio (the CERN open source digital library software: http://cdsware.cern.ch/). However, INSPIRE goes further than its venerable predecessors. For example, in searching for a paper, it will not only fully understand SPIRES' search syntax, but will also support free-text searches as in Google.

INSPIRE is built on the Invenio software developed at CERN, which currently manages about a million records. This collaborative tool for managing large digital libraries is already inspiring many other institutes around the world. In particular, the Astrophysics Data System – the digital library run by the Harvard-Smithsonian Center for Astrophysics for NASA – has

(Continued on page 2)

A word from the DG

Hats off to the particle suppliers

A couple of weeks into the LHC's first high energy physics run, and we've already got an impressive story to tell. Long fills for physics are becoming routine, luminosity scans have increased the collision rate. The operators are becoming adept at squeezing the beams ever smaller, and higher intensity studies are progressing well. With the experiments, it's the same story.

Following the plots that the spokespersons were able to show on 30 March after just one hour of running, the experiments have already made

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A word from the DG

(Continued from page 1)

Hats off to the particle suppliers

significant inroads into re-measuring all the Standard Model parameters necessary to ensure that they fully understand their detectors before any new discoveries can be announced. It's impressive stuff, and the attention is rightly on the LHC and its experiments. But we shouldn't loose sight of the fact that all this relies on the seamless operation of many other systems.

Starting from a deceptively simple bottle of hydrogen, an LHC proton beam embarks on its voyage through the CERN accelerator chain. By the time it reaches the LHC, it has been manipulated and cajoled through no fewer than six accelerators and many kilometres of transfer line. At CERN, we have long celebrated the PS complex as the world's foremost particle juggler. Now, at the age of 50, it has added yet another skill to its repertoire: not a bad achievement for any acrobat.

Each of CERN's accelerators also comes with a plethora of support systems from power supplies to vacuum and cryogenics, all of which need to work as a seamless whole for the LHC to bring its beams together at points 1, 2, 5, and 8. In short, the CERN accelerator complex is a hugely complex system that relies on the skill and professionalism of many. As we celebrate the LHC's successful beginnings, let the first toast be to them.

Rolf Heuer

HEP gets INSPIREd

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recently chosen Invenio as the new technology to manage its collection.

Particle physicists were once the beneficiaries of world leading information management. Now INSPIRE, anchored by the Invenio software, aims once again to give the community a world-class solution to its information needs. The future is rich with possibilities, from interactive pdf documents to exciting new opportunities for mining this wealth of bibliographic data, enabling sophisticated analyses of citations and other information. The conclusion is easy: if you are a physicist, just let yourself be INSPIREd!

The full version of this article is published in the April issue of the CERN Courier:

http://cerncourier.com/cws/article/cern/42094

CERN Bulletin

LHC status report

Following the great success of the first 3.5 TeV collisions in all four LHC experiments on 30 March, the focus of the LHC commissioning teams has turned to consolidating the beam injection and acceleration procedures.

During the last two weeks, the operators have adopted a cycle of beam commissioning studies by day and the preparation and delivery of collisions during the night shifts.

The injection and acceleration processes for the beams are by now well established and almost all feedback systems, which are an essential ingredient for establishing reliable and safe machine operation, have been commissioned. Thanks to special current settings for the quadrupoles that are situated near the collision points, the LHC luminosity at high energy has been increased by a factor of 5 in three of the four experiments. Similar improvements are under way for the fourth experiment.

The next steps include adjustments of the LHC machine protection and collimation devices, which will ensure 'stable beam' conditions that should allow the experiments to turn on all their inner detector components. Once these results are achieved, the LHC commissioning teams will aim at increasing the beam intensities.

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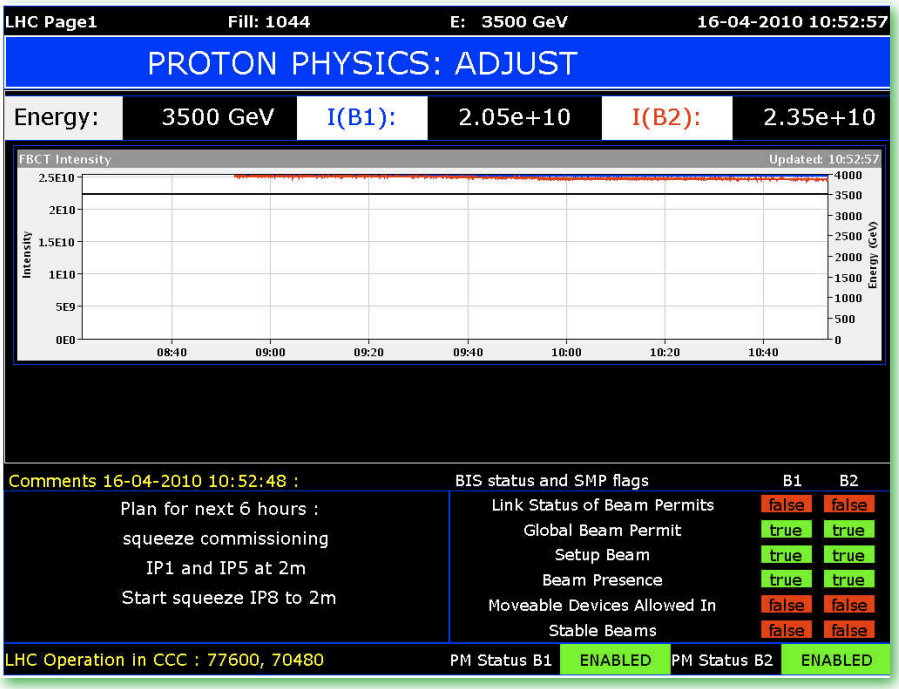

Renewing our green spaces

CERN's poplars were planted 50 years ago to soak up the surplus water in the ground beneath the Laboratory's sites. Now that they have reached the end of their life-cycle, some of the poplars are in danger of falling or losing their dead branches. On Saturday, 17 April, as part of the campaign launched in February at Prévessin, work will start on replacing the poplars on central areas of the Meyrin site.

In July 2009, CERN was awarded an environmental label for its protection of rare flower species and the natural landscaping approach it has taken at its Meyrin site. The Laboratory has a very strict environmental policy: for years those in charge of CERN's green areas have given priority to natural management methods and have avoided the use of pesticides. In addition, patches of land are left unmowed in spring, allowing the local flora—especially the orchids—to grow naturally.

Since last year the team in charge of CERN's green areas within the GS-SEM-LS section has been turning its attention to the poplars. "During work for the first installations on the Meyrin site 50 years ago, people realised that there was a lot of water in the ground," explains Mathieu Meylan, a member of the green-areas management team. "Poplars were planted because they absorb a lot of water from the ground and therefore provide good drainage."

This tactic has worked and the site is now well drained. But these trees now pose a problem since they've reached the end of their life cycle (approximately 40 years) and are becoming fragile: when this happens, branches can fall off and a tree may even fall, representing a hazard to people and property. As Mathieu further explains: "In 2009, we commissioned institutions such as France's National Forestry Office (ONF) and HEPIA in Switzerland to survey all the poplars on the Meyrin site." The survey revealed that a substantial proportion of the remaining 400 trees were approaching the end of their life-cycle and needed to be replaced."

Operations to cut down the poplars representing the greatest hazard will therefore start on Saturday 17 April on the car park in front of the entrance to the CERN kindergarten near Gate A as well as around the Cedars car park. To avoid all traffic disruption, the 33 poplars concerned will be cut down over three weekends, 11 each time. A second phase will start in November, bringing the total number of trees cut down to 75 by the end of the year. Replanting with varieties found locally will start in the winter. Read the Bulletin No. 10-11/2010.

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Timing is an all-important rule in nature

Mathieu points out that "For every tree that we cut down, we will plant one and in some cases two new trees. However, trees have to be planted at the right time of the year to take account of their growth cycle. We also have to take account of the cost. So we will plant relatively young trees, which are less expensive." In addition, trees have to be replanted when they are resting, i.e. when there isn't much sap rising up the trunk. This means that replanting operations are restricted to the period between October and the end of April. "In December we will start planting wild and ornamental flowering cherry trees, red oaks, hornbeams and other varieties that are commonly found in this region." Then we can just sit back and watch them grow!

Recycling idea

The trees that have been cut down will be transformed into wood chips for heating.

Replanting operation on the terrace of Restaurant 1 (Thursday, 8 April 2010).

Replanting plan for the Cedars and CERN kindergarten car parks.

When particles hit the headlines

With its high discovery potential and unprecedented performance, the LHC is a much-anticipated machine. Media and the public are eagerly following every development, and on 30 March, the communication teams provided wide coverage of the day's historic events.

The LHC is a machine of superlatives, and that includes its impact on science communication. Never before has a particle accelerator been as well known as the LHC, or a fundamental science laboratory made such an impressive list of headlines in the world's press.

The news of the first 7 TeV collisions was covered by print, radio and television news around the world. At least 2,200 news articles were published in print and online on the same day (see graph). More than 100 journalists from 68 media outlets in 18 countries attended the event at CERN.

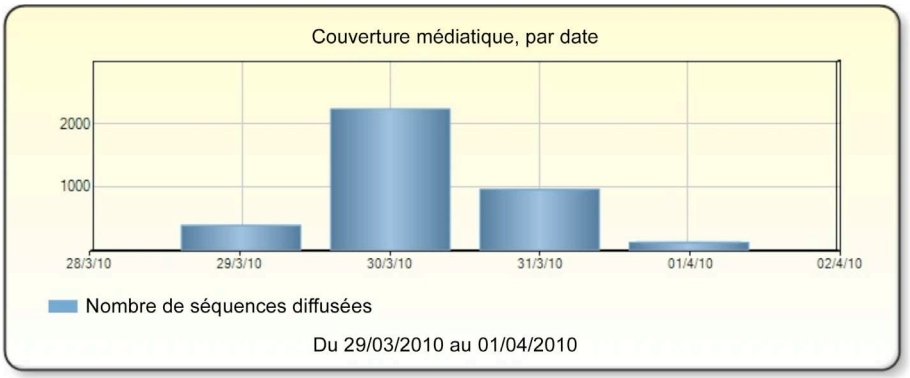
CERN's public homepage recorded 205,000 visitors (unique IPs) from 185 countries, compared to a normal average of 10,000 visitors per day. The Press Office site (includes LHC First Physics site) recorded 154,000 visitors, up from a usual average of 2,000 per day.

Live tweeting from the CERN Control Centre started in the very early morning. Very rapidly, the number of followers started to grow and went up to 120,000, an increase of 30,000 compared to the day before. The link to the press release announcing the first 7 TeV collisions was clicked on 58,000 times. The link to the webcast received 11,000 clicks, while that to the photos of the CCC received 16,000 clicks. The keywords "LHC", "CERN", "TeV" and "experiment" were all global trends on Twitter at some point during the day.

In parallel, the LHC First Physics day-long webcast was visited by 700,000 unique computers (IP addresses), with an average of about 3 videos viewed by each. Together with other video material, it was rebroadcast by several TV channels.

CERN's LHC communication plan, drafted in 2006, began with the words "The aim of this plan is to gain maximum benefit in terms of public image for CERN and particle physics world-wide through the unique communications opportunity presented by the start-up of the LHC". Its objective was to build a platform from which the particle physics community could engage with a wider audience than ever before. Mission accomplished.

James Gillies



TRIPLE ISSUE OF THE BULLETIN FOR ASCENSION

There will be a triple issue of the Bulletin (No. 18-19-20/2010) covering the Wednesday of 5, 12 and 19 May.

Articles for the following issue of the Bulletin (No. 18/2010), should be submitted by midday on Tuesday 30 April at the latest.

Publications Section (DG-CO)
Tel. 73586

Puzzling antimatter

For many years, the absence of antimatter in the Universe has tantalised particle physicists and cosmologists: while the Big Bang should have created equal amounts of matter and antimatter, we do not observe any primordial antimatter today. Where has it gone? The LHC experiments have the potential to unveil natural processes that could hold the key to solving this paradox.

Every time that matter is created from pure energy, equal amounts of particles and antiparticles are generated. Conversely, when matter and antimatter meet, they annihilate and produce light. Antimatter is produced routinely when cosmic rays hit the Earth's atmosphere, and the annihilations of matter and antimatter are observed during physics experiments in particle accelerators.

If the Universe contained antimatter regions, we would be able to observe intense fluxes of photons at the boundaries of the matter/antimatter regions. "Experiments measuring the diffuse gamma-ray background in the Universe would be able to observe these light emissions," confirms Antonio Riotto of CERN's Theory group. "In the absence of such evidence, we can conclude that matter domains are at least the size of the entire visible Universe," he adds.

What caused the disappearance of antimatter in favour of matter? "In 1967, the Russian physicist Andrej Sakharov pointed out that forces discriminating between matter and antimatter, called 'CP-violating' effects, could have modified the initial matter-antimatter symmetry when deviations from the thermal equilibrium of the Universe occured," says Antonio Riotto. In the cold Universe today, we can only observe very rare CP-violating effects in which Nature prefers the creation of matter over antimatter. Following their discovery in the decays of K-mesons containing strange quarks, they have now also been observed in the decays of B mesons which contain bottom quarks.

Today, scientists think that the early Universe might have gone through a transition phase in which the thermodynamic equilibrium was broken, when the density of the Universe was very high and the average temperature was one billion or more times that inside the Sun. "Some physicists think that this might have happened through the formation of 'bubbles' which have progressively expanded, thus 'imposing' their new equilibrium on the whole pre-existent Universe," explains Antonio Riotto. Whatever the real dynamics of this phase actually were, the important thing is that one particle of matter in every 10 billion survived, while all the others annihilated with the corresponding antiparticles.

How can the LHC help to solve the mystery? By studying rare decays, experiments can bring us more accurate information about phenomena related to CP-violation involving both known and new particles, such as mesons containing both bottom and strange quarks. Moreover, if new supersymmetric particles are discovered at the LHC, some of the possible scenarios leading to a non-equilibrium phase could find experimental support. "If the LHC finds a Higgs boson with a mass less than about 130 GeV, and if this discovery comes with the detection of a light supersymmetric particle called 'stop', this could be the experimental proof that the non-equilibrium phase happened through the formation of bubbles," concludes Antonio Riotto.

In any case, since the disappearance of primordial antimatter cannot be explained by the current Standard Model theory, it is clear that we have to look for something new. Scientists are exploring different avenues but, given the fact that what we observe represents only about 4% of the total energy and matter that the Universe is made of, one can guess that part of the key to solving the antimatter mystery could be held in the yet unknown part of the Universe. With its very high discovery potential, the LHC will certainly help shed light on the whole issue.

Francesco Poppi

The LHC is not alone in the search for the solution to the antimatter mystery. BaBar at SLAC in the US and BELLE at KEK in Japan have measured decays of B-mesons in detail, and the Tevatron experiments CDF and D0 are also exploring CP-violation effects. Later this year, the AMS (Alpha Magnetic Spectrometer) experiment will be docked to the International Space Station (ISS) and will start looking for evidence of antimatter particles resulting from the decay of dark matter.

The person behind much of your reading matter

Four million black and white copies and twenty thousand colour copies in 2009 alone – all printed, finished and filed by one person: Florella Lamole, an employee of an outside contractor who has been based at CERN since 1982.

Maybe you know her better as Flo: she's the person in charge of the CERN Print Shop's high-tech printers and copiers. With her beloved machines, Flo produces paper copies of all manner of CERN documents, from Council and Management documents to minutes of meetings, scientific documents for CMS and ATLAS, brochures, students' theses, and even the paper version of the Bulletin you're reading. Flo is undeniably behind a good deal of your reading matter!

CERN's printing demands are high in terms of both quality and quantity. "The Council documents are strictly confidential. And when there's a Council meeting, documents need to be printed straight away, as soon as it's over. That just wouldn't work with an outside printing company," says Flo. The need for confidentiality and speed make an in-house print shop essential.

Florella Lamole and her daily printings

Cost is a third, non-negligible advantage of an in-house print shop. "Having recourse to an outside company can be significantly more expensive, depending on the type and quantity of the documents to be printed," says the specialist with 28 years of CERN experience under her belt!

Alizée Dauvergne

Florella Lamole's curriculum vitae

Born in Brittany, Florella spent the first years of her career working for a producer of sporting trophies and cups before taking a few years off to raise her two children. Having moved to the Geneva area in the meantime, she started work at CERN in 1982 and was immediately taken on in the Print Shop. She worked with mechanical equipment in the early years of her career as she learned the basics of her trade. Then, as the printing industry and the associated equipment evolved, she followed training courses to keep up to date with developments. In 1999, she received official recognition for skills and dedication when she was awarded a diploma of merit for exceptional services from the Director of Xerox for Suisse Romande, at a ceremony attended by representatives of the CERN Management. Today, with another four years ahead of her before retirement, she intends to follow further training in the installation of a computerised order management system.

A long history

The CERN Print Shop came into existence long before Florella's arrival, of course, right at the beginning of the Organization's history. In the early days, its 'raison d'être' was to print the so-called Yellow Reports quickly and in large numbers to ensure that the Laboratory's physics results were the first to make the world headlines. Then, as the Organization's personnel grew in number, important projects were developed and accelerators were built, the Print Shop's workload escalated accordingly, with the annual production figures reaching and exceeding 60 million copies. The simultaneous development of printing equipment made this possible: "The move from mechanical to digital equipment was a radical and positive change, transforming the speed and quality of our printing. Before, we were obliged to scan documents, which affected the quality, especially when it came to photographs," says Flo. But now, with the expansion of the Web, the volume of material that needs to be printed has inevitably decreased. Today, the Print Shop produces 'only' 4 to 5 million copies a year...

A young Russian choir at CERN

On Thursday 8 April, a Russian choir of 39 children from Gatchina (45 km from St Petersburg) visited CERN and improvised a very nice performance in the Reception of Building 33. Marina Savino from PH-UCM was the interpreter.

A trendy approach to education!

On 11 March, Lyn Evans, the LHC project leader, talked live to hundreds of students in Wales using the standard videoconference equipment available at CERN (see box below). The students were delighted with the presentation and obviously very much appreciated this modern means of communication with the Laboratory. A further lecture is planned for May.

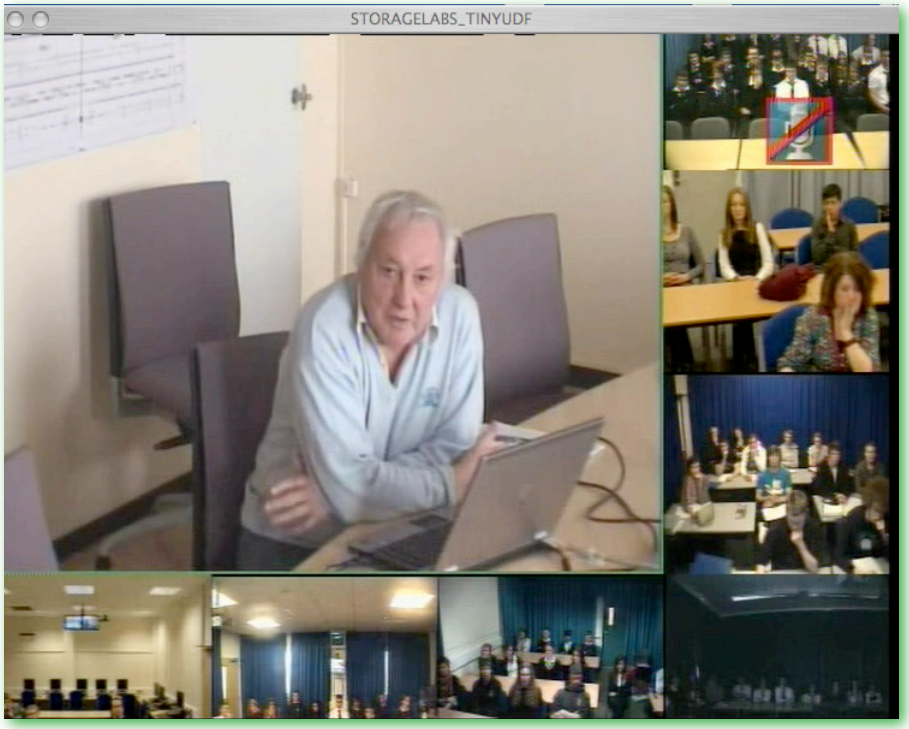
The Welsh Video Network (WVN) is one of the most advanced videoconferencing networks in the world, comprising over 80 networked video studios throughout Wales. For the LHC lecture given by Lyn Evans, no fewer than 27 schools and colleges were connected live with CERN. "This was a lecture for A-level students," says Lyn Evans. "I introduced CERN and spoke about the physics we are doing here and what we want to discover. I talked about antimatter, dark matter, etc."

The LHC lecture was part of the WVN lecture series. "This programme aims to bring guest speakers from higher education and industry into the classroom via videoconference, saving time and travel costs for both the students and the speakers," explains Maldwyn Jones, teaching and learning advisor for the WVN. "Schools and colleges are also using videoconferencing for distance learning, collaborative teaching, student support and for meetings and planning."

What Lyn most appreciated was the opportunity to push back the boundaries of science education and to bring it to a wider public. "It's not as good as an actual face-to-face with people, but you could access the whole world in this way!" he enthuses. Technically speaking, the videoconference link has a lot of useful features: "I was able to see 5 or 6 schools at a time on the screen," says Lyn. "The monitoring studio was switching from one school to another so that they could all see each other. And after my presentation I switched over the camera to myself. They could see me, and I could see them."

The students seem to have enjoyed this experience as much as Lyn. "They were on the edge of their seats throughout the session! " confirms one of the participating teachers. For others, this was "a realization that physics is not classroom-based and that what students have learnt in the classroom is used in actual scientific research." Finally, teachers reported that students had expressed the wish "to take part in 'Part 2' if Dr Evans decides to present it." Lyn enthusiastically accepted the idea of another lecture, which is now planned for 5 May.

Alizée Dauvergne



Question time after the videoconference between Lyn Evans and 27 schools and colleges from Wales.

CERN connects to schools

Videoconferencing (VC) with schools has a long tradition at CERN. The Education Group proposes this option to schools wanting to experience the live link with CERN. The VC programme is becoming increasingly popular among European schools. One of the projects of the Education Group includes having many schools from different nationalities simultaneously connected. "This would demonstrate the international nature of the research done at CERN and would bring some additional excitement for the students from different countries," says Rolf Landua, head of the Education Group.

If you are interested in setting up a video link with CERN, please contact Mick.Storr@cern.ch.

Library Bibliothèque

Library news : Techniques de l'Ingénieur

The CERN Library has been providing electronic access to the "Techniques de l'Ingénieur" database for the past 8 months. As a reminder, this is a multidisciplinary database of over 4000 technical and scientific articles in French, covering a broad range of topics such as mechanical engineering, safety, electronics and the environment.

In a few simple steps, you can create your own account, select the types of documents you are interested in and configure your settings so as to receive alerts when articles in your field of activity are published. You can now access this resource from outside CERN using the "remote access to electronic resources" service.

Further information is available at:

http://library.web.cern.ch/library/Library/techniques.html

Direct access to the database:

http://www.techniques-ingenieur.fr/home.html

Remote access to electronic resources:

https://library.web.cern.ch/library/Library/remote.html

If you have any questions or comments, don't hesitate to contact us at:

library.desk@cern.ch

CERN Library

The beauty of the physical world

Graham Farmelo, author and former particle physicist, visited CERN on 25 March. To the CERNois gathered in the Main Auditorium, he talked about his new book *The Strangest Man*, a biography of Paul Dirac. Dirac was obsessed by the importance of mathematical beauty in fundamental physics, a belief that was "almost a religion" to him. Farmelo himself has no doubts: among all of the natural phenomena the LHC may unveil, supersymmetry is the most beautiful.

Talking about the life of a physicist to draw the attention of the public to the science: that was the idea behind Graham Farmelo's decision to write a biography of Paul Dirac. The book won the 2009 Costa Biography Award. "I chose Paul Dirac because he was the first truly modern theoretical physicist but he is virtually unknown to the public," explains Graham Farmelo. "Dirac had a fascinating life. He was not born in a wealthy or a particularly brilliant family but he ended up conceiving in his head antimatter, that is, half of the Universe just after the Big Bang."

The book is not just about the science, it's about Dirac's life. "Writing about physics is more challenging than writing about, for instance, evolutionary biology which you can describe with very little mathematics," Farmelo says. "In physics, we have to work harder to show the human interest and we have to get things over without the mathematical complexities."

One of the main personal interests of Dirac was the application of beautiful mathematics to the physical world. The beauty of the Universe we live in, and the fact that Nature can be described by beautiful mathematical laws, fascinated the great scientists and Graham Farmelo also. "Human beings are moved by 'beauty'. You feel that mathematical beauty has a kind of universality, something that can be shared by everyone, independent of their culture. In the same way, if you take a law of nature, which is very concise and does not have lots of ends and bits hanging off it but still applies to the whole universe, then you feel its beauty! And this is what modern theories are: they explain more and more in terms of fewer and fewer principles. For Dirac beauty was like a religion: he believed that a theory could not be right unless it was based on beautiful mathematics."

So, what will be the most beautiful discovery that the LHC will bring us? "Supersymmetry would be very beautiful," he replies. "It would be another fundamental symmetry of Nature. It is very beautiful mathematically. It is too beautiful to be wrong."

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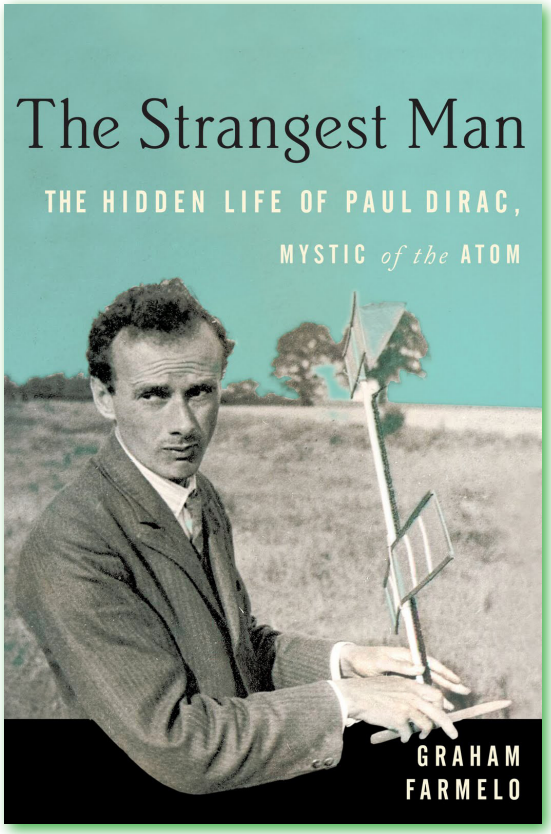

Film showing

Higgs: into the heart of imagination

On 29 April at 7pm Dutch filmmakers, Hannie van den Bergh and Jan van den Berg, will introduce their directorial debut, *Higgs: into the heart of imagination* in CERN's Main Auditorium.

This documentary is about the curiousity, passion and imaginative powers of science. Featuring physicists working at CERN, in particular in ATLAS, and filmed over four years, the film-makers have created a cinematic journey into the heart of imagination. They follow Stan Bentvelsen, head of the Dutch research group at CERN, and watch as he prepares his team for the start of the LHC, as well as the scientific competition to find the elusive Higgs particle. The film also features Peter Higgs as he discusses his work from 1964.

The directors have created theatre productions and other multimedia projects under the title *The Imagination of Invisible Dimensions*, which allow for adventurous dialogues between art and science.

All are welcome to attend this showing and afterwards there will be a short question-and-answer period with the film-makers.

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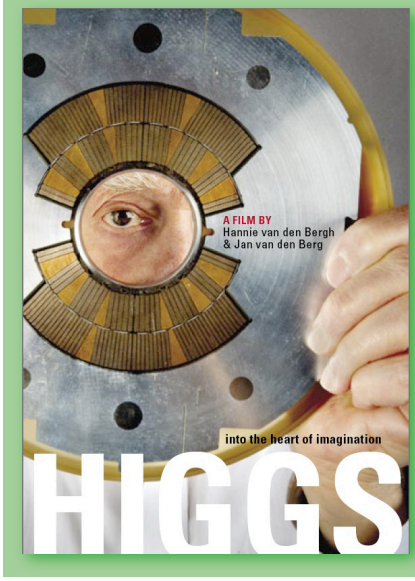

Win a lift to the future!

The Communication Group is organising a competition offering people at CERN the chance to submit their ideas and win a ticket to the Lift10 Conference (http://liftconference.com/lift10), which will be held in Geneva from 5 to7 May.

Lift is a community of technology "pioneers", created in 2006. It now involves more than 4,000 people from over 60 countries, who meet regularly in Europe and in Asia to explore the social implications of new technologies and the major shifts ahead.

CERN is one of the academic partners of the next Lift conference, whose theme is "Connected people". For this occasion, 10 free tickets to the conference will be awarded to the "CERNois" who come up with the best answers to the question:
"How would you contribute to Lift10?"

Those taking part in the competition can choose from among the following categories:
- run workshop(s);
- cover the conference on a blog;
- coordinate a discussion during the breaks;
- organize a lift@home event before or after the conference;
- interview a speaker for CERN.

Laurent Haug, the founder and president of Lift, looks forward to welcoming the ten winners of the CERN competition: "I believe that the quality of a conference depends first and foremost on the quality of the audience, which CERN attendees will certainly help to enhance," he says.

For the first Lift conference Haug chose the motto: "Held in Geneva, where the Web was born." Throughout the years the role of CERN in the partnership with Lift has evolved. "Like most people, I did not really realise the impact the LHC could have on us until we invited Brian Cox as a speaker at Lift07 (http://www.liftconference.com/brian-cox-0)," he recalls. "I now appreciate how much finding the elusive Higgs boson would mean, and I believe this is where CERN could make a huge difference in the coming years."

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How to participate?

Choose a category from among those listed above and send your ideas on how best to contribute to Lift10 to Bulletin-Editors@cern.ch by 30 April. The winners will be contacted and given a free ticket to the conference.

A salutary exercise

On 25 March, a fire drill was carried out in Building 60 in the presence of the Director-General. The dual aims were to test the alarm system and give the building's occupants the opportunity to practice the evacuation drill. Everything went well and people were able to resume their normal activities immediately afterwards.

Several surface buildings at CERN are fitted with audible alarm systems (frequency-modulated sirens) indicating that personnel should evacuate immediately in the event of an emergency such as a fire. In the framework of training personnel in appropriate responses in the event of fire and to test the alarm devices, fire drills are carried out at the initiative of heads of departments in collaboration with GS/FB and DGS/SEE. To facilitate the evacuation of a building, fire wardens are trained to supervise the personnel and direct them to the assembly point.

Occupants of Building 60 in front of the assembly point at the end of the fire drill.

The drill at Building 60 went very smoothly: occupants left the building immediately and waited until the fire wardens had made their reports to the Fire Brigade. Everyone was able to return to work as soon as the firemen had officially announced the drill was over.

In a statement, the Director-General, Rolf Heuer, said: "Fire drills such as these are vitally important for each and every one of us, and I'm very pleased to see that everything went well for the occupants of Building 60." The message is clear: if you hear the alarm, stop whatever you are doing and proceed to the closest assembly point.

If you are in a surface building when the alarm goes off, you must:
- Leave all your belongings behind.
- Leave your office immediately in a calm and orderly fashion. Do not turn back at any time during evacuation.
- Proceed to the assembly point via the main staircase or emergency exits and not via the lifts.

Smoke is the number-one hazard during evacuation. Stay close to the ground if you are short of oxygen and use evacuation routes that are clear of smoke.

If you see a fire, set off the alarm using one of the special push-buttons or call 74444.

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François Louis (1928 – 2010)

François Louis, who was a CERN mathematician from 1957 to 1988, passed away on 23 March 2010.

Everyone who was at CERN in the early years will remember the important role he played before the advent of computers, as well as his skills as a teacher when it became imperative for us all to make use of them. His lessons, at all levels, were remarkable for their precision and clarity. François loved to share his gifts of intelligence and culture with his friends and colleagues. Never turning down a request for help, he imparted his wisdom to the many who sought it with unfailing modesty and wit. We recall with affection his wonderful conversation, where mathematics merged with literature, cinema and his other great passion, music. Indeed he will also be remembered as a gifted pianist. His critical spirit and impeccable manners, born of a bygone era, left an indelible mark on us all. We are deeply saddened by his death.

His friends

Take note

CONFERENCE ON THE TREATMENT OF TINNITUS AND HYPERACUSIS

Monday 3 May 2010 from 2.30 p.m. to 4.30 p.m

IT Auditorium - Bldg. 31-3-004

Sylviane Chéry-Croze, Honorary Research Director at the CNRS

and Ange Bidan, Vice-President of the French Association of Tinnitus Sufferers

Do you suffer from tinnitus or hyperacusis?

The CERN Medical Service and UNIQA Assurances SA, Geneva, invite you to a conference organised by the French Association of Tinnitus Sufferers.

The conference will start with an introduction devoted to the destabilising experiences of people suffering from these symptoms and to the reactions that they induce. This introduction will be followed by a presentation of what are universally assumed in the medical research world to be the causes of the most frequently encountered forms of tinnitus (neurosensorial tinnitus). The presentation will also describe the multidisciplinary treatment that is currently regarded as the most effective means of initially managing the symptoms and then of eliminating them and that similarly targets these assumed causes.

The presentation will also survey the various clinical research protocols currently under way in Europe, which give sufferers of certain types of tinnitus hope of treatments in the short- to medium-term that will bring about a complete cure.

GS Department

INFORMATION FROM THE CULTURAL KIOSK - GENEVA WELCOME CENTRE (UNOG)

The Geneva Welcome Centre has the pleasure to inform you that the Cultural Kiosk at the UNOG is now able, thanks to a new partnership with FNAC, to sell tickets for a number of additional cultural events, among others those of the Grand Théâtre de Genève.

To celebrate this new feature,

the Grand Théâtre de Genève

in association with the Geneva Welcome Centre and the magazine UN Special

has decided to make a special offer for its next performance,

Francesco Cavalli's " La Calisto "

which will be represented from 13 April to 28 April 2010.

This offer is meant for international civil servants, members of diplomatic missions as well as official delegates under presentation of their legitimation or accreditation card. The tickets at the reduced price can be bought at the Cultural Kiosk (door 6).

This opera, rarely performed, will be one of the highlights of the season. The Welcome Centre thus encourages you to take advantage of this exceptional offer.

www.geneveopera.ch

Technical training

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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 necessary 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 the 5th May to 7th May 2010 in the CERN Technical Training Center.

Registrations are open on the Technical Training page. More information on our catalogue or contact us with your questions/comments 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 necessary 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 28th to 30th June 2010 in the CERN Technical Training Center.

Registrations are open on the Technical Training page. More information on our catalogue or contact us with your questions/comments 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 learn how to create board-level schematic designs with Design Entry HDL. You explore the integration between Design Entry HDL and other tools in the design flow, including the Allegro® PCB Editor. You 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 28th to 30th June 2010 in the CERN Technical Training Center.

Registrations are open on the Technical Training page. More information on our catalogue or contact us with your questions/comments at Technical.Training@cern.ch

HR Department

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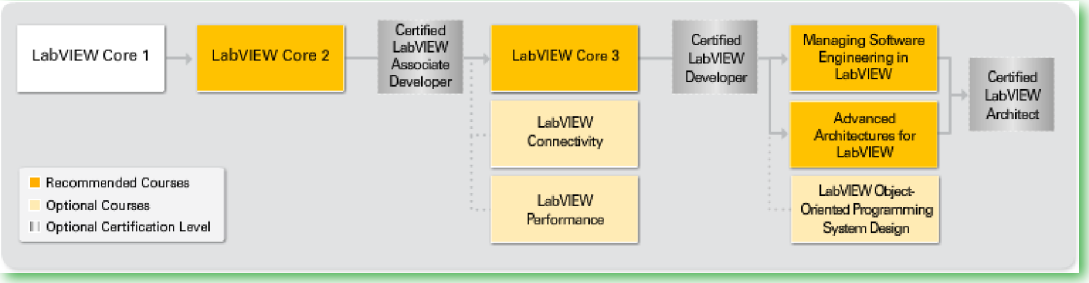
LABVIEW SUPPORT AT CERN



Since 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 that has developed, using LabVIEW, most of the measurement systems to qualify the LHC magnets and components over the past 10 years. Also the post mortem analysis for the LHC hardware commission has 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 info please have a look at the LabVIEW support webpages

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

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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 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 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 also learn how to use the Rapid Application Development Environment (RADE) tools to interface with the CERN control infrastructures

The next sessions 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 sessions 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 architect 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 sessions 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

Technical training

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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) EXAMINATION	29-APR-10	29-APR-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	27-APR-10	29-APR-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	19-APR-10	23-APR-10	English	4.5 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
Oracle Databases: Advanced PL/SQL Programming	26-APR-10	28-APR-10	English	3 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	1day
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 Basic I with RADE introduction / LabVIEW Core I with RADE introduction	07-JUN-10	09-JUN-10	English	3 days
LabVIEW Basics 2 / LabVIEW Core II	10-JUN-10	11-JUN-10	French	2 days
MATLAB - Fundamentals and Programming Techniques (ML01)	29-APR-10	30-APR-10	English	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-Smarteam Base 2	07-MAY-10	28-MAY-10	French	7 jours
CATIA-Smarteam 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
Travailler en salle propre	26-APR-10	26-APR-10	French	1 jour
Vacuum for accelerators, intermediate level	14-JUN-10	18-JUN-10	French	10 heures

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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
Dreamweaver CS3 - Niveau 1	26-APR-10	27-APR-10	English	2 days
EXCEL 2007 - level 1 : ECDL	31-MAY-10	01-JUN-10	French	2 jours
EXCEL 2007 - Level 2: ECDL	20-MAY-10	21-MAY-10	French	2 jours
EXCEL 2007 (Short Course I) - HowTo... Work with formulae, Link cells, worksheets and workbooks	25-MAY-10	25-MAY-10	Bilingual	3 hours
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
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
OUTLOOK 2007 (Short Course II) - Calendar, Tasks and Notes	03-MAY-10	03-MAY-10	Bilingual	3 hours
OUTLOOK 2007 (Short Course III) - Meetings and Delegation	04-MAY-10	04-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	07-JUN-10	08-JUN-10	English	2 days
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 1 : ECDL	29-APR-10	30-APR-10	French	2 jours
WORD 2007 - level 2 : ECDL	03-JUN-10	04-JUN-10	English	2 jours
WORD 2007 (Short Course I) - HowTo... Mail merge (with Outlook)	17-MAY-10	17-MAY-10	Bilingual	3 hours
WORD 2007 (Short Course II) - Working with long document: styles and tables of contents	17-MAY-10	17-MAY-10	Bilingual	3 hoursl

Special course

Egroups training	21-MAY-10	21-MAY-10	French	3.5 heures

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.

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Seminars

MONDAY 19 APRIL

CERN JOINT EP/PP SEMINARS
11:00 - Council Chamber, Bldg. 503

Direct dark matter search with the XENON100 experiment
T. MARRODAN UNDAGOITIA / UNIVERSITY ZURICH

TH JOURNAL CLUB ON STRING THEORY
14:00 - Bldg. 1-1-025

Higher Spin Gauge Theory and Holography: The Three-Point Functions
I. PAPADIMITRIOU

TUESDAY 20 APRIL

TH STRING THEORY SEMINAR
14:00 - TH Auditorium, Bldg. 4

TBA
J. TESCHNER / DESY

WEDNESDAY 21 APRIL

TH COSMO COFFEE
11:00 - Bldg. 1-1-025

TBA
A. TOLLEY / PERIMETER INSTITUTE

TH THEORETICAL SEMINAR
14:00 - TH Auditorium, Bldg. 4

SUSY Gauge theories and quantum many body systems
S. SHATASHVILI / TRINITY COLLEGE, DUBLIN, AND CERN-PH-TH

FRIDAY 23 APRIL

PARTICLE AND ASTRO-PARTICLE PHYSICS SEMINARS
14:00 - TH Auditorium, Bldg. 4

TBA
S. ELLIS / SEATTLE UNIVERSITY

MONDAY 26 APRIL

TH JOURNAL CLUB ON STRING THEORY
14:00 - Bldg. 1-1-025

TBA
M. SCHMIDT-SOMMERFELD

TUESDAY 27 APRIL

CERN JOINT EP/PP SEMINARS
11:00 - Council Chamber, Bldg. 503

TBA

TH STRING THEORY SEMINAR
14:00 - TH Auditorium, Bldg. 4

TBA
M. YAMAZAKI / TOKIO U.

WEDNESDAY 28 APRIL

WORKSHOP
10:30 - Bldg. 40-S2-B01 - Salle Bohr

Large Scale Project Management

TH COSMO COFFEE
11:00 - Bldg. 1-1-025

TBA
J. ZUPAN / U. OF LJUBLJANA

THURSDAY 29 APRIL

TH BSM FORUM
14:00 - TH Auditorium, Bldg. 4

Composite Leptoquarks
B. MATTHEW GRIPAIOS

CERN COLLOQUIUM
16:30 - Main Auditorium, Bldg. 500

Gravitational Waves from Coalescing Binary Black Holes: Theoretical and Experimental Challenges
T. DAMOUR / INSTITUT DES HAUTES ETUDES SCIENTIFIQUES