CERN Bulletin

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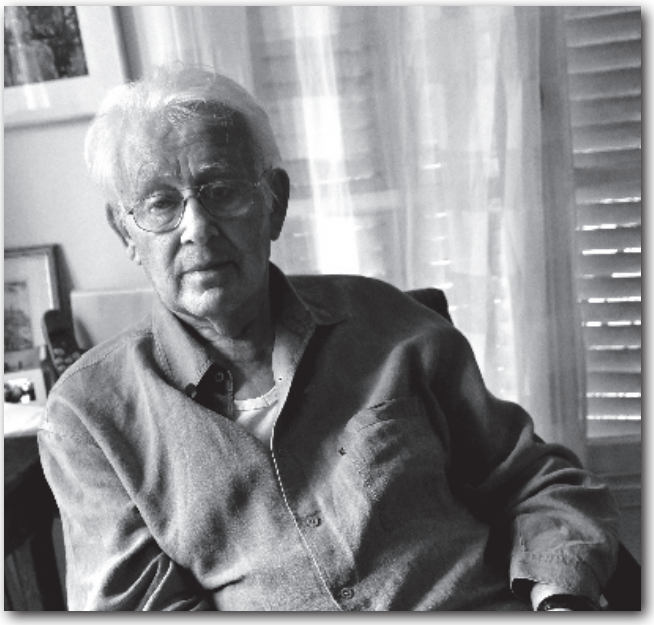
News



Georges Charpak : 1924 -2010

All of CERN was deeply saddened to learn the news that our friend and colleague, Georges Charpak, had passed away on 29 September 2010.

There are few people who can honestly be said to have changed the world, but Charpak was one of them. Born in Dabrovika, Poland on 8 March 1924, Charpak fled the Nazi regime under a false identity and moved to France where he joined the Resistance. Arrested and deported to Dachau, he returned to France after the war and took French nationality in 1946.

A student of Frédéric Joliot-Curie at the *Collège de France*, he joined CERN in 1959, just five years after the Organization's foundation, and he certainly left his mark. From the start, Charpak applied himself to the development of new particle detector techniques. His outstanding and pioneering efforts revolutionised particle physics, taking the field into the electronic age. It is fair to say that without the developments he pioneered, particularly the invention of the multi-wire proportional chamber in 1968, much of the LHC programme would not be possible today.

The significance of his work did not go unnoticed, and was crowned with the award of science's biggest prize, the Nobel, in 1992. In making this award, the Swedish Academy recognised not only Charpak's contribution to science, but also to society. Detectors evolved from his pioneering work have found applications in many walks of life, that ranging from medicine to security.

For most people, that would be enough, but not for Charpak. As well as a passion for science, he also had a passion for education, and set up the successful *'la main à la pâte'* programme to engage young people with science. This, he once said, was his true vocation.

I know that I am speaking for all of Georges' friends and colleagues at CERN in saying that we will miss him. Particle physics has lost not only an excellent physicist, but also a true gentleman.

A full tribute will appear in a forthcoming issue of the CERN Courier.

Rolf Heuer

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(Continued from page 1)

An excellent performance for the non-LHC programme

With the LHC firmly in the public eye, the rest of CERN's accelerator complex and experimental programme isn't getting the attention it richly deserves, so I've decided to address that in my message this week. After all, even the LHC relies on the machines that deliver its beams day after day with little or no fanfare. It's time for the people involved with those machines and the experiments that use them, to step forward and take their share of the limelight.

The first link in the CERN accelerator chain is linac 2, a machine first switched on in 1978 and scheduled to be replaced by linac 4 in 2016. It is here that most of CERN's beams are born. From there, the beams move into the booster, which combines bunches from the linac in order to boost intensity. From the booster, it's onto the PS, and then to the SPS. All of these machines have been in service for over 30 years.

Along the way, beams are farmed out to a range of experimental facilities. ISOLDE takes its beams from the booster. The PS supplies n-ToF, the East Hall and the AD, while the SPS provides beams for the North Area, CNGS and the LHC. It all adds up to a remarkably diverse and rich research programme.

So far, 2010 has been a good year all round, with excellent performances for the non-LHC physics programme. ISOLDE, for example, is a remarkable facility with a repertoire of over 700 different isotope beams. In 2010, some 40 experiments are using those beams for research, ranging from nuclear structure to nuclear astrophysics and biophysics. At CNGS, some 3.2×10^{19} protons have been delivered on target: 10% more than was expected at this point in the year. The performance of the PS in delivering beam to the n-ToF facility is also significantly exceeding expectations. At the beginning of the year, n-ToF's request for 1.6×10^{19} protons on target seemed wildly optimistic, but the PS's 92% up-time, coupled with technical improvements, means that the actual total delivered will come very close to that figure. Last but not least, the SPS has been reliably delivering beams to the COMPASS experiment in North Area, with an up-time of 87%.

Our research programme can only be as good as the accelerators that feed it, so it's encouraging that the full accelerator complex is performing so well. An upgrade programme has long been planned, and its implementation began with civil engineering for the new linac 4 building in 2008. We had originally intended to hook up linac 4 in 2015, but due to current austerity measures, that will not now happen until 2016. The risk we take in delaying a year is in having to rely on ageing machinery for one more year. However, with overall reliability figures of over 80% so far in 2010, I think it's safe to say that the risk is a small one.

Rolf Heuer

RAMSES stands guard over the accelerator chain

RAMSES, the system that is used to monitor radiation at the LHC, CNGS, CTF3 and n-TOF facilities, will soon be installed at strategic points in the accelerator chain, replacing the older monitoring system ARCON. The replacement programme has already begun.

RAMSES (which stands for "Radiation Monitoring System for the Environment and Safety") is designed to protect workers, the general public and the environment, both on the Organization's site and in the surrounding areas.

It is currently operational on all the LHC sites and at CTF3, CNGS and n-TOF, while the remaining sites are still equipped with the ARCON (Area CONtroller) system. Daniel Perrin, head of the Instrumentation and Logistics Section of the HSE Unit's Radiation Protection Group, explains: "ARCON was designed for the old LEP accelerator and dates back to the early 1980s, while RAMSES is a much more recent design intended specifically for the LHC. With 389 detectors distributed across 124 measuring points, it provides constant, reliable monitoring."

RAMSES is an exacting monitoring system, and among the largest currently in use at a research centre. Its reliability is crucial for accelerator operations, as Daniel Perrin explains: "A malfunction in the radiation monitoring system can bring the entire accelerator complex to a standstill". The data measured by RAMSES is continuously collected and transferred to a database for immediate distribution and long-term archiving. In zones that can be accessed during LHC operation, some detectors are connected directly to local alarms, which are triggered as soon as the radiation level exceeds a given threshold. These alarms are immediately relayed to the various control rooms and, of course, logged in the database.

"All the measurements are recorded, so we can mine the database and perform real-time monitoring or historical analysis for all the detectors," says Perrin.

For the machines and experiment areas other than the LHC, CNGS and CTF3, radiation monitoring continues to be provided by ARCON. "As far as the detectors are concerned, there is not much difference between the two systems: both are very capable," notes Perrin. "The biggest difference between the old and the new systems lies in the actual design of the detection network. The connectivity and exploitation of the data supplied by the detectors is much more efficient in RAMSES, providing better intrinsic security, which is why we are phasing out ARCON."

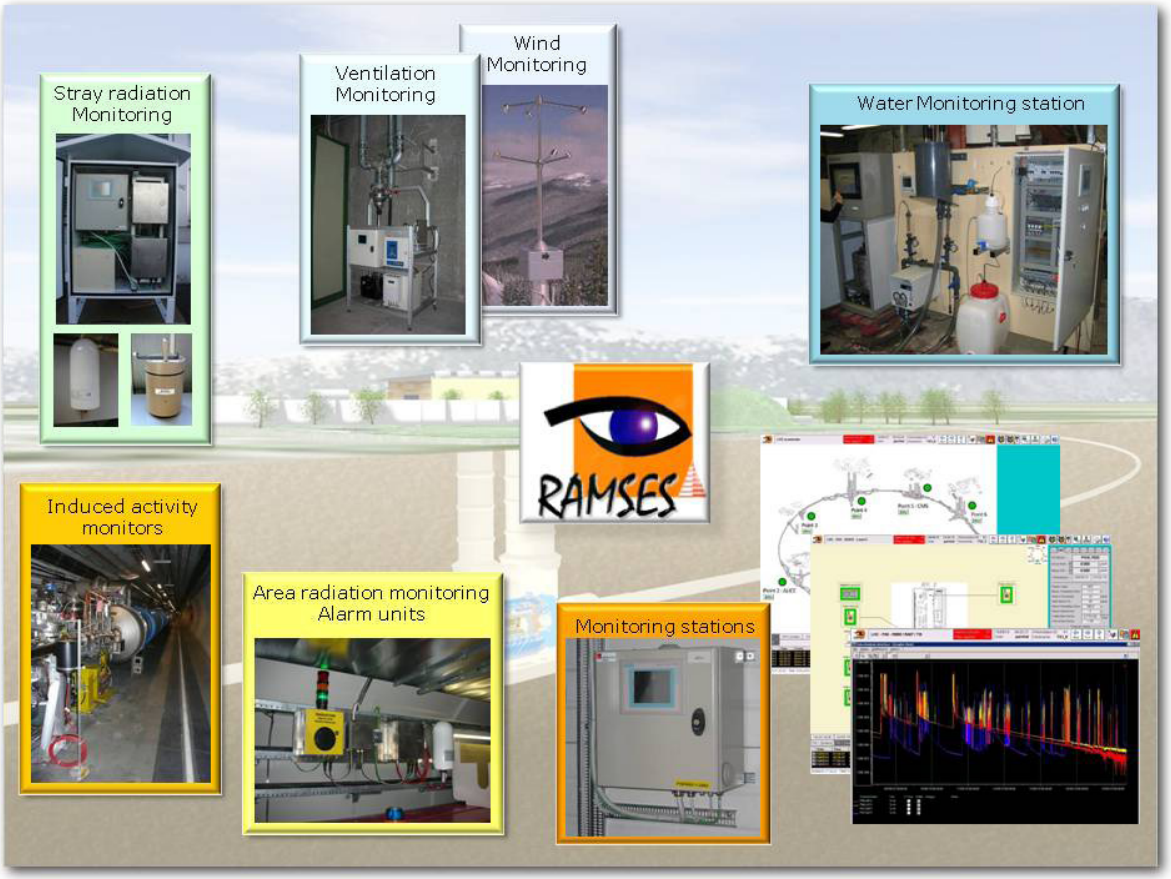
RAMSES is based on a set of independent monitoring units that directly manage the information supplied by the detectors. "The architecture and design of RAMSES offer the necessary flexibility and scalability allowing the system to be integrated into the existing accelerators as well as CERN's future projects", adds Daniel Perrin.

In close collaboration with their colleagues working on operational radiation protection, public safety and environmental protection, Daniel Perrin's team has already identified 50 priority sites where the old ARCON instrumentation will be replaced or supplemented with newer RAMSES hardware this year. Replacement of the remaining instrumentation and the final phase-out of ARCON in favour of RAMSES will essentially be done during the long technical shutdown of the LHC scheduled for 2012.

To find out more: go to:

http://environmental-impact.web.cern.ch/environmental-impact/en/Radiation/Radiation-en.html

Bulletin CERN



Training for higher intensities

Three weeks of intense machine development were brought to a satisfactory conclusion on the night of 21 September with the final validation of the machine protection systems for operation with bunch trains. The machine is now ready to accept more and more trains of bunches.

On Wednesday 22 September, the first physics fill was made using bunch trains, with 3 trains of 8 bunches per beam, providing 16 pairs of colliding bunches per experiment. This fill was used to restart operation for physics both for the machine and for the experiments. On Thursday, the number of bunches was increased to 56 per beam, providing 47 colliding pairs at Points 1, 5 and 8, and a smaller number at Point 2 to meet the requirements of ALICE. This is roughly the same intensity that we had in the machine in August. The first fill made under these conditions, fill 1366, brought an unexpected bonus. Bunches of nominal intensity were injected into the LHC with a smaller than usual transverse size, which was expected to cause lifetime problems when they were brought into collision. On the contrary, however, the beam lifetime in collision remained surprisingly high (25 hours) and the luminosity was significantly higher than expected. This opens up unexpected possibilities for the way that the machine is operated in future.

The strategy for increasing the intensity is to make an initial step of around 50 bunches, and then make 3 fills delivering over 20 hours of colliding beams under these conditions before progressing to the next step.

This first step was made on Saturday 25 September, with an increase to 104 bunches per beam, providing 93 colliding pairs at Points 1, 5 and 8. This means that the total intensity per beam now exceeds 10^{13} protons, and the stored energy per beam at 3.5TeV is 6MJ. With these levels of stored energy, the LHC is now operating with the highest stored beam energy of any collider, exceeding the record set by the ISR many years ago. Under these conditions the LHC is able to deliver over 1pb^{-1} luminosity in a 12-hour physics fill.

As the total intensity increases, many accelerator systems have to adapt to the higher intensities. This week, beam instrumentation and radio frequency systems started to show different behaviour and need to be tuned for the new conditions.

The next increase (to 152 bunches per beam) was made on Wednesday 30 September, with a further increase scheduled over the weekend. The peak luminosity to date is just under 3.5 10^{31} cm^{-2} s^{-1}, which is within a factor 2 of the target for 2010.

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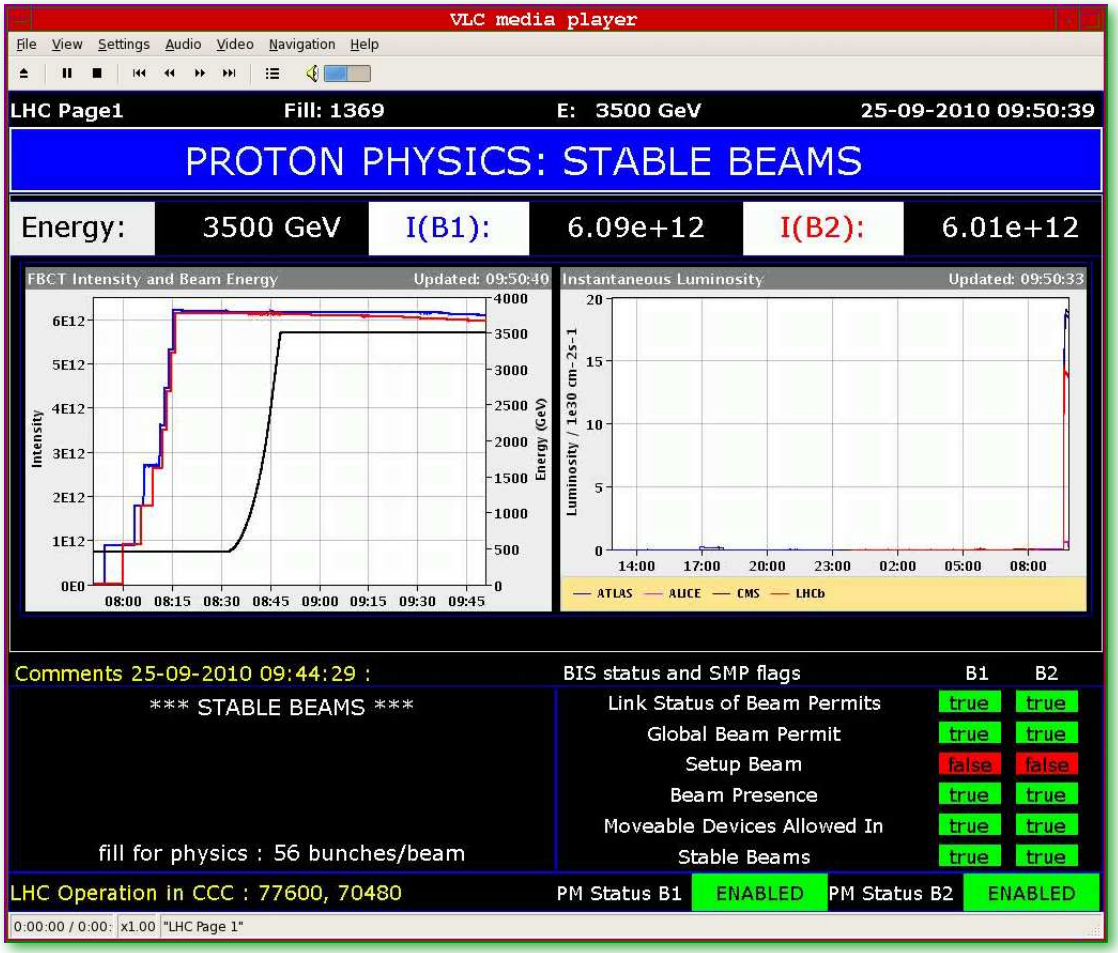


CERN-EU relationship provides various opportunities

The relationship between the EU and CERN continues to grow stronger, as the Director-General and the President of Council recently visited Brussels to discuss the progress made since the signing of the Memorandum of Understanding (MoU) in July 2009. With financial cuts and budget reductions plaguing research programmes across the world, the MoU is a solid basis for enhancing existing or developing new synergies between the two parties.

In recent times, due to the global economic downturn and reductions in national research budgets, the competition for funding from the EU's Seventh Framework Programme (FP7, 2007-2013) has become extremely tough. However, given the large number of CERN proposals accepted by the EC since the start of FP7, one can definitely say that CERN has good chances of further success in the future. "Indeed, the MoU has significantly improved the collaboration between CERN and the European Commission, creating a unique line of communication between the two sides", confirms Svetlomir Stavrev, Head of the EU Projects Office.

On 6 September 2010, a delegation from CERN met three Directors-General from the European Commission along with the Commissioner for Research, Innovation and Science to assess the implementation of the MoU and discuss future cooperation in areas that cover activities related to particle physics (e.g. accelerator and detector R&D) but also other fields of wide benefit for the citizens of Europe, such as health, e-infrastructures, research careers, technology transfer and open access to scientific results. "Several high-level meetings in one day show the Commission's commitment to the implementation of the MoU work plan, and in general, the respect it has for CERN," says Stavrev.

Collaboration with the European Commission is not solely based on participation in the Framework Programme. "There are a number of areas where the MoU has facilitated the input of CERN as regards the content of the FP7 work programmes, which in fact define the scientific topics that will be funded by the EC in the years to come" says Stavrev. "CERN has also conveyed to the EC opinions and recommendations concerning the ongoing FP7 interim evaluation, and is in the process of providing input as to the programme orientations of the next Framework Programme. In addition, CERN and the EC inform each other of their priorities and plans for the future, with a view to coordination of the developments in particle physics in Europe and the relevant EU programmes and initiatives. "

If you have ideas for new projects that you think could have a chance of being funded by the EC, the EU Projects Office can provide you with all the relevant information and professional advice.

Katarina Anthony-Kittelsen

Rolf Heuer, Michel Spiro and other members of the CERN delegation photographed with Máire Geoghegan-Quinn, EU Commissioner for Research, Innovation and Science, during the 2010 Annual CERN-EC meeting. Credits: European Union, 2010.

Did you know?

CERN has been collaborating with the European institutions since the signature of an Administrative Agreement for Cooperation in Science and Technology in 1994. Over the past decade, the EU has extended its support to European science by developing and implementing the European Research Area. In this context CERN decided to further strengthen its links with the EU for the benefit of European science, which led to the signing of the Memorandum of Understanding (MoU) in 2009, with the aim of enhancing cooperation between the two parties.

In order to facilitate the implementation of the MoU, a work plan was developed between the EU and CERN. This plan defined a number of priority areas where the two sides intend to cooperate. These include: Joint Programming, Research Infrastructures, E-Infrastructures, Knowledge Transfer and Intellectual Property, Researchers' Careers and Mobility, Open Access, Science Communication, Technologies for Health, Energy and Environment, and International Cooperation.

Pakistan flood damage mapped by UNOSAT at CERN

As the waters recede, the Pakistan floods are attracting less attention in the world's media. But at the CERN-based headquarters of UNOSAT, the UN Institute for Training and Research Operational Satellite Application Programme, mapping the damage caused by the floods remains the top priority as the "emergency phase" is only now beginning to level off.

UNOSAT uses impartial, objective data to assess the specifics of a disaster: What surface area has the flood covered? How many bridges and roads have been destroyed? How many areas are impenetrable? Although there are statistical answers to these questions, UNOSAT's assessment of the damage caused by the Pakistan floods can be simply described in one word: catastrophic.

The images used by UNOSAT are taken from a variety of different sources – commercial and scientific. Once a satellite takes an image, the owner of the data sends it to a downloading station. This data is then transferred to UNOSAT's data storage system at CERN. "Being located at CERN, we can quickly download and store images", explains Einar Bjorgo, UNOSAT's Humanitarian Task Manager. "This allows us to do our job so much better than it could be done anywhere else."

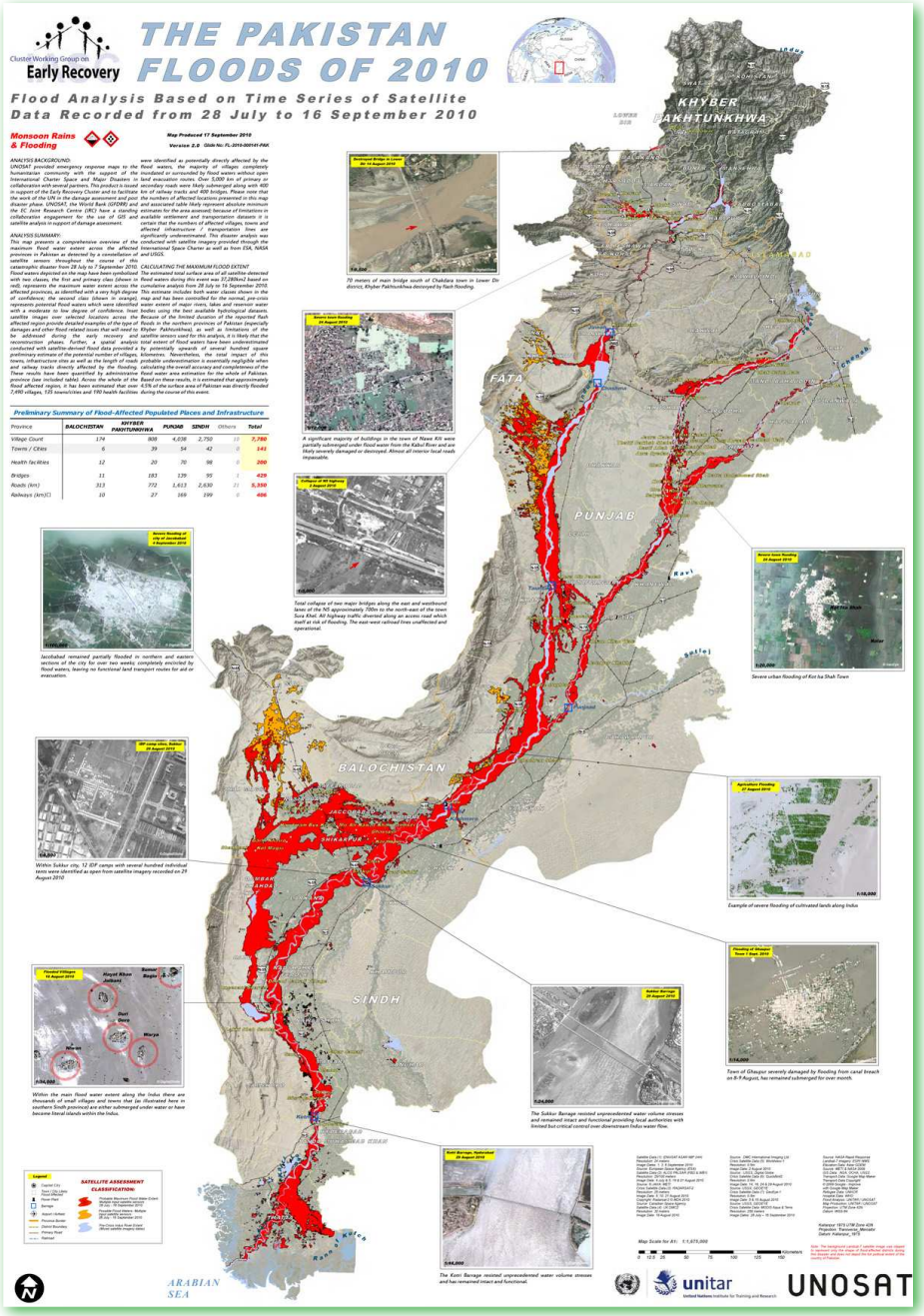
Before the analysis can begin, the data needs to be harmonized with UNOSAT's system. Images arrive in "raw format", as each satellite generates different resolutions and sizes that need to be reconfigured. On top of that, images taken by radars – which have the ability to see through clouds – are much more complex to interpret. All in all, it can be a lengthy process if not handled efficiently. The sooner images of a catastrophe are requested, the sooner information obtained from analysing them can get through to the humanitarian workers who need it.

In the case of the Pakistan floods, UNOSAT was on the ball right from the beginning. Unlike the Haiti earthquake, Pakistan's disaster required regularly updated information as the floodwaters changed direction. "For dynamic situations like floods and conflict situations, it is important to report how they develop over time ", says Bjorgo.

Although it has been three months since reports emerged about the Pakistan floods, the UNOSAT team is still tracking the moving waters. "What makes Pakistan different to other natural disasters is the pure scale and how long it has lasted. The actual flood event is just starting to decline", explains Bjorgo.

Long after the film crews have left, UNOSAT will remain with the catastrophe. "We stay – just as we stayed in Haiti, and just as we stayed a long time after the Tsunami in South-East Asia: looking at reconstruction, working with NGOs", says Bjorgo. "We will still stay on this for a long, long time to come. But the emergency phase is fading out – the disaster is entering another phase, and so are we."

Katarina Anthony-Kittelsen



Flood analysis in Pakistan based on time series of satellite data recorded from 28 July to 16 September 2010. Credits: © UNOSAT.

CLIC expands to include the Southern Hemisphere

Australia has recently joined the CLIC collaboration: the enlargement will bring new expertise and resources to the project, and is especially welcome in the wake of CERN budget redistributions following the recent adoption of the Medium Term Plan.

With the signing of a Memorandum of Understanding on 26 August 2010, the ACAS network (Australian Collaboration for Accelerator Science) became the 40th member of the multilateral CLIC collaboration, making Australia the 22nd country to join the collaboration. "The new MoU was signed by the ACAS network, which includes the Australian Synchrotron and the University of Melbourne", explains Jean-Pierre Delahaye, CLIC Study Leader. "Thanks to their expertise, the Australian institutes will contribute greatly to the CLIC damping rings and the two-beam test modules."

Institutes from any country wishing to join the CLIC collaboration are invited to assume responsibility for part of the study (organised in work packages) and to provide the corresponding resources. CLIC membership is not restricted to CERN Member States. Sixteen institutes that are presently members of the CLIC collaboration are from 8 non-Member States (China, India, Japan, Pakistan, Russia, Turkey, Ukraine and the USA). "This is an interesting aspect when it comes to the enlargement of CERN: new countries are starting to get involved in CLIC in the framework of a global collaboration hosted by CERN. The progress of the CLIC study and the development of its novel scheme and technologies beyond the present state of the art are made possible by the combined expertise and resources provided by all the partners in a global collaboration framework" explains Delahaye.

The CLIC study is presently focused on the preparation of a Conceptual Design Report (CDR) describing the concept and feasibility of a Multi-TeV Linear Collider based on the CLIC technology. Unfortunately, critical measurements with beam in the CTF3 facility had to be postponed to next year due to a three-month delay in tests, caused by a fire in the CTF3 klystron gallery in March 2010. "The chemical products used to extinguish the fire expanded in the gallery and caused electronic equipment to corrode. A draft of the CLIC CDR will be presented to the SPC in June 2011 for comment, with a view to the submission of a final document by the end of 2011", explains Delahaye.

The countries involved in the CLIC collaboration

A proposal for the next phase of the CLIC study aiming at the preparation of a Technical Design Report (TDR) is under preparation. The work programme is presently being reviewed to take into account the redistribution of the CERN budget, which allocates a future increase of the CERN resources for CLIC from 20 to 30 million Swiss francs, instead of the 60 million originally expected. The CLIC Collaboration is looking for additional resources in order to develop the CLIC technology as rapidly as possible.

The preparation of the CDR and the programme of the Technical Design Phase will be discussed at the International Workshop on Linear Colliders (IWLC), which will cover accelerators and detectors of both CLIC and the ILC for the first time. The workshop is being hosted by CERN and will take place from 19 to 22 October, with plenary sessions at CERN and parallel sessions of working groups at the Geneva International Conference Centre (CICG).

"For the sake of CLIC development in a global collaboration framework, the CLIC collaboration is continuing to look for new partners", confirms Delahaye. "Collaborating with CLIC is an excellent opportunity for institutes around the world to strengthen ties with CERN and its scientific projects and to contribute to the most advanced techniques in the accelerator field within the framework of a global collaboration".

Roberto Cantoni

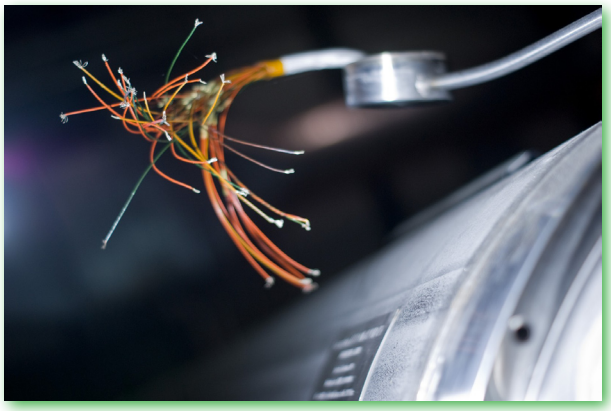
Photowalk contest winners

The local winners of the global particle physics Photowalk competition have been announced by the five participating laboratories. At CERN, Diego Giol and Christian Stephani were the jury's favourites, and their photos will now go forward to the global vote, competing against the local winners from DESY in Germany, Fermilab in the US, KEK in Japan and TRIUMF in Canada. Two prizes are to be awarded, one selected by a global jury, the other by popular vote – it's time to get voting!

Diego Giol.

The global winners of the Photowalk contest will be revealed by the second week of October, but the local CERN winners were announced last week. After three weeks of work, two meetings of the jury and three successive selections, 20 photos were chosen from the 792 entries. The three highest ranked will participate in the final competition. The public can vote for their favourite photos on the interactions.org website until 8 October.

Only two photographers took the three winning photos at CERN: Diego Giol from Argentina, who contributed twice, and Christian Stephani from Switzerland. Giol, a software engineer, moved to Switzerland a few years ago, and currently works as a project manager at ISO in Geneva. He has been especially passionate about technology and, of course, photography since a young age. Stephani, born in Biel, is currently a student at Biel School of Visual Arts, and has been interested in the arts and photography since 2002.



Christian Stefani.

The CERN jury was composed of five members: a professional photographer, the CERN photographer, a computer scientist, a representative of the CERN Library, and a member of the Physics Department.

"The theme of the CERN contest was 'a different view of CERN', so, when selecting the photos, we gave preference to those with a novelty aspect", says Maximilien Brice, CERN photographer and a member of the jury. "The selection was tough, though, as the level was quite high despite it being an amateur contest. I was really impressed by the quality of the photographs as well as by the equipment used by the contestants." "As well as technical aspects, the selection also took account of the human and emotional sides since an important quality of a photo is the telling of a story", adds Michael Doser, SME group leader and the Physics Department's representative on the jury.

The twenty finalist entries of the CERN contest will be exhibited at the Globe next year. A gallery of all the photos taken at the five laboratories is available on Photowalk's flickr website.:

http://www.flickr.com/photos/interactions_photos

Roberto Cantoni

CERN Library Bibliothèque

News from the Library

Citation counts: Web of Science @ CERN

The selection of online information resources available to the CERN community has recently been supplemented by an additional database : Web of Science.
WoS is a collection of several databases, including the Science Citation Index, the Conference Proceedings Index and the Journal Citation Reports. The first two products allow you to perform subject, author and title searches, and most importantly to obtain a list of papers citing a specific article, or to navigate to the articles cited by the same article. Besides the retrieval and navigation features, analytical tools allow you to produce statistics and graphs describing the impact of a publication. Finally, the Journal Citation Reports database provides you with the well-known and often-disputed Impact Factor. A link to Web of Science is available on the Library's home page:

http://library.cern.ch

Please provide feedback to library.desk@cern.ch.

CERN Library

Enhancing the visibility of new technologies

After several years of experience and reflection on the subject of technology transfer, CERN has formalised its policy for managing the intellectual property linked to its technology transfer activities.

The new Policy on the Management of Intellectual Property in Technology Transfer activities at CERN was approved in March this year. The aim of the policy is to clarify the basic principles governing technology transfer and the management of the associated intellectual property. The document also lays down the principles governing the redistribution of the income generated by technology transfer and provides for a fund to be set up to give financial support to knowledge and technology transfer projects. "Our main aim is to do everything we can to facilitate the actual transfer of CERN technologies and know-how with potential applications in other research fields or in industrial processes or products," says Bernard Denis, who is a member of the Knowledge and Technology Transfer (KTT) Group. "If the transfer process generates any revenues, these are shared between the Group which developed the technology, the Department and the support fund."

The policy document is compatible with the principles laid down in the IP Charter formulated by the Technology Transfer Network for Particle Physics in Europe and presented to the Council in September 2009, as well as with the European Commission's recommendations of April 2008. Bernard Denis adds: "We're aware that the principles according to which we manage IP and technology transfer are not always very clear or widely known in-house and outside the Organization. This document sets out the main guidelines, operating principles and ground rules."

Defining a strategy in the field of knowledge transfer is no small matter, with several parameters needing to be taken into account, such as the principle of affording equal opportunities to industries in all CERN Member States and the rule against technology transfer for military purposes. Bernard Denis confirms: "This policy is the fruit of many years of experience, reflection and discussion with technology transfer experts in public research organisations across Europe. Our direct experience in the field was a very important factor in bringing the document to fruition."

As a complement to the official text, the KTT Group is ready to answer any of your questions on the Policy.
Feel free to send your questions to the experts at helpdesk-tt@cern.ch.

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Science by night – it's magic!

The control rooms of the LHC and its experiments threw open their doors to 150 youngsters on European Researchers Night and the place was buzzing with excitement all evening!

It's just possible that a few scientists' vocations were born last Friday night, as the sixth European Researchers Night took place across Europe. CERN was taking part for the first time and invited young people aged from 12 to 19 into the control rooms of the LHC machine and five experiments. From 5.00 in the afternoon until 1.00 in the morning, 150 youngsters and physics teachers got the opportunity to sit with scientists at the controls of the accelerator and experiments. This meeting of minds went down very well for all concerned, the scientists being only too happy to wax lyrical about their passion. The youngsters were thrilled with their visit and amazed at being allowed so close to the controls of these mighty machines. The night-time setting added an extra touch of magic to the whole event. Some just couldn't tear themselves away, some wanted to know what studies to follow in order to become a physicist, and others went home boasting they had found the Higgs boson (in a simulator, of course)!

Pupils from French and Swiss schools visited ALICE and took shifts in the control room, helping the ALICE physicists run the experiment.

A lucky few were interviewed on Swiss TV (TSR) or by the CERN video team for the webcast taking place in parallel at the Globe of Science and Innovation. CERN was connected not only to the LHC control rooms but to other laboratories and organisations around the world, including *Frascati Scienza* in Italy and the Erasmus Medical Centre in the Netherlands. During an 8-hour show, in French and English, spectators connecting via the web were able to hear from Nobel Prize-winner George Smoot in Paris, visit the Ice Cube experiment at the South Pole and enjoy many other treats, including a guided tour of the world's laboratories, which helped make it a truly magical evening.

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Physikshow is a hit in the Globe

Students from the University of Bonn put on three highly successful performances of their "Physikshow", a theatrical journey into the world of particles.

All you need is a bit of imagination and stage management for even the most abstract of physics to become entertaining and intelligible, a principle demonstrated by 20 students from the University of Bonn and their teachers who gave three performances of their "Physikshow" in the Globe of Science and Innovation. The students quickly won over their audience using an array of amazing experiments and wacky sketches to illustrate the world of particles, the principle of forces and the evolution of the cosmos. More than 370 pupils from local secondary schools in France and the Cantons of Geneva and Vaud travelled to CERN for the two performances specially reserved for schools. The audience for the public performance numbered no fewer than 250.

Physikshow was first performed in 2002 and has evolved over the years thanks to the input of new students. The key to its success is in exploiting the students' originality and spontaneity to convey fundamental physics principles through simple, entertaining experiments. In other words, the show is basically a dialogue between youth and science. To mark their trip to CERN, the troupe put a little extra into the show - sequences on LHC research were inserted, the actors learned their lines in French and all the video footage was translated. They all deserve a standing ovation!

CERN Bulletin

CERN

Lunchtime Film Presentation

The Big Bang Machine

by BBC (2008)

Professor Brian Cox visits Geneva to take a look around CERN's Large Hadron Collider before the vast, 27km long machine is sealed off and a simulation experiment begins to try to create the conditions that existed a billionth of a second after the Big Bang. Cox is joined by fellow scientists, including CERN theorist John Ellis and Nobel Laureate Leon Lederman from Fermilab, who hope that the LHC will change our understanding of the early Universe and solve some of its mysteries.

The Big Bang Machine will be presented on Friday 15 October from 13:00 to 14:00 in the Council Chamber, Bldg.503

Language: English

Carolyn Lee

Biocell Training course mandatory for accessing the LHC tunnel from 1 December 2010

Following the incident in Sector 3-4 on 19 September 2008, which led to a major helium release in the LHC tunnel, measures have been put in place to reinforce safety awareness and training for all those accessing the tunnel.

One of the actions taken was to create a hands-on safety course on how to put the Self Rescue Breathing Apparatus (Biocell) on. The course is entitled "Biocell Training" and started in late summer 2009. To date some 1350 people have been trained, although roughly 1700 people have access to the LHC machine tunnel. With the training capacity in place, it is feasible to train everyone with access before the coming Christmas technical stop, which will start in December 2010.

The "Biocell Training" course has clearly shown the necessity of training the personnel. In addition, the feedback from the participants is very positive.

Decision

In the light of the conclusion reached by HSE, DSOs and the GLIMOS of the LHC experiments, successful completion of the "Biocell Training" course will be a mandatory prerequisite for accessing the LHC tunnel as of 1 December 2010.

Sign up

Enrolment for the Biocell training course can be done from DGS home page/Safety Training/Safety Training for me/Safety Training Catalogue/Health and Safety at Work/Biocell Training

CERN Bulletin

MEDICAL SERVICE INFORMATION

The Medical Service is pleased to inform you that a psychologist specialising in psychotherapy (member of the Swiss Federation of Psychologists- FSP), Mrs Sigrid Malandain, will be starting work at CERN on 1 November 2010, in the premises of the Medical Service, Building 57-1-024.

Members of the CERN personnel can request individual consultations, by appointment, in French or in English, on Tuesdays and Thursdays by calling 78435 (Medical Service secretariat) or sending an e-mail to psychologist-me@cern.ch.

VACCINATION AGAINST SEASONAL INFLUENZA

This year, as usual, the Medical Service is helping to promote vaccination against seasonal influenza.

Vaccination against seasonal flu is especially recommended for anyone who suffers from chronic pulmonary, cardio-vascular or kidney disease or diabetes, is recovering from a serious illness or major surgery, or is over 65 years of age.

The flu virus is transmitted through the air and through contact with contaminated surfaces, so frequent hand-washing with soap and/or an antiseptic hand wash is of great importance.

As soon as the first symptoms appear (fever above 38°, shivering, coughing, muscle and/or joint pains, generalised weakness), you are strongly recommended to stay at home to avoid spreading the virus.

Anyone working on the CERN site who wishes to be vaccinated against seasonal flu should go to the Infirmary (Building 57, ground floor), with their dose of vaccine.

The Medical Service will issue a prescription on the day of the vaccination for the purposes of reimbursement through UNIQA.

The Medical Service does not perform vaccinations for family members or for pensioners, who must contact their family doctor.

Take note

REDUCED SERVICE OF THE "IT SERVICE DESK" (COMPUTING HELPDESK) ON THE AFTER NOON OF FRIDAY 8 OCTOBER 2010

Please note that due to relocation, the "IT Service Desk" will be operating a reduced service on Friday 8th October from 12-30. In particular, the telephone line 78888 will not be available and users will be invited to submit their requests by e-mail (Computing.Helpdesk@cern.ch). E-mail requests will be treated as normal, but some delays are possible.

In the event of urgent problems you may call the IT Manager on Duty on 163013. We also take this opportunity to remind you about the "IT Service Status Board" where all computing incidents and scheduled interventions are updated online. Please see:

http://cern.ch/it-servicestatus

Normal service will be resumed at 8-30 a.m. on Monday 11 October.

Thank you in advance for your understanding.

The CERN "User Support" Team (IT-UDS-HUS)
IT Department

ENTRANCE - PRÉVESSIN SITE

Due to road surface repair work, road planing followed by re-surfacing will take place on 4 and 5 October, between the access barriers and the security guard control room. During this work, only one carriage way will be open to vehicles travelling in both directions.

Thank you in advance for your patience and vigilance during the work.

GS-SEM Group
General Infrastructure Services Department

Language training

Language Training
French Courses

Nathalie Dumeaux Tel. 78144
nathalie.dumeaux@cern.ch

GENERAL AND PROFESSIONAL FRENCH COURSES

The next session will take place from 11 October to 17 December 2010.

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

For registration and further information on the courses, please consult our Web pages:

http://cern.ch/Training

or contact Mrs. Nathalie Dumeaux, tel. 78144.

NEW COURSES

SPECIFIC FRENCH COURSES -EXAM PREPARATION/

We are now offering specific courses in English and French leading to a recognised external examination (e.g. DELF 1 and 2).

If you are interested in following one of these courses and have at least an intermediate level of French, please enrol through the following link:

https://aislogin.cern.ch/aislogin/Login?REFER=http://cta.cern.ch/cta2/f%3Fp%3D110:9:4945775020636731::NO::X_COURSE_ID,X_STATUS:4246%252CD

or contact:

Lucette Fournier, tel. 73483 (French courses).

Marie-Laure LECOQ 74924
ENSEIGNEMENT TECHNIQUE
TECHNICAL TRAINING
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

Business Objects advanced	20-Oct-10	20-Oct-10	English	1 day
C++ Part 2: Object-Oriented and Generic Programming	22-Nov-10	25-Nov-10	English	4 days
CERN openlab Multi-threading and Parallelism Workshop	9-Nov-10	10-Nov-10	English	
CERN openlab/Intel Computer Architecture and Performance Tuning Workshop	22-Sep-10	23-Sep-10	English	2 days
ITIL Foundations (version 3)	22-Nov-10	24-Nov-10	English	3 days
ITIL Foundations (version 3) EXAMINATION	28-Oct-10	28-Oct-10	English	1 hour
JAVA - Level 1	25-Nov-10	29-Nov-10	English	3 days
JAVA 2 Enterprise Edition - Part 1: Web Applications	27-Oct-10	28-Oct-10	English	2 days
JCOP - Finite State Machines in the JCOP Framework	17-Nov-10	19-Nov-10	English	3 days
JCOP - Joint PVSS-JCOP Framework	11-Oct-10	15-Oct-10	English	4.5 days
Linux LPI 101 - Introduction à Linux et LPI 102 Administration systèmes sur Linux	1-Nov-10	4-Nov-10	English	4 days
Oracle Database SQL Tuning	25-Oct-10	27-Oct-10	English	3 days
Oracle Databases: Advanced PL/SQL Programming	27-Sep-10	29-Sep-10	English	3 days
PERL 5 - Advanced Aspects	30-Nov-10	30-Nov-10	English	1 day
PERL 5 - Introduction	25-Oct-10	26-Oct-10	English	2 days
Python - Hands-on Introduction	18-Oct-10	21-Oct-10	English	4 days
Python: Advanced Hands-On	16-Nov-10	19-Nov-10	English	4 days
Secure coding in C/C++	12-Oct-10	13-Oct-10	English	2 days
Web Applications with Oracle Application Express (APEX) 3.2	20-Sep-10	22-Sep-10	English	3 days

Electronic design

Altium Designer - Advanced training for experts	8-Oct-10	8-Oct-10	French	1 jour
Altium Designer - migration for occasional PCAD users	5-Oct-10	7-Oct-10	French	3 jours
Altium Designer 6.0 - Foundation & Board Implementation	22-Sep-10	30-Sep-10	French	5 jours
CEM DES CONVERTISSEURS DE PUISSANCE	3-Nov-10	5-Nov-10	French	3 jours
LabVIEW Connectivity with RADE applications	11-Nov-10	12-Nov-10	Bilingual	2 days
LabVIEW Core I with RADE introduction	11-Oct-10	13-Oct-10	Bilingual	3 days
LabVIEW Core II	14-Oct-10	15-Oct-10	Bilingual	2 days
LabVIEW Core III	8-Nov-10	10-Nov-10	Bilingual	3 days
LabVIEW Data Acquisition and Signal Conditioning Course	4-Nov-10	5-Nov-10	Bilingual	2 days
Siemens: Profinet IK-PNSYS	28-Oct-10	29-Oct-10	French	2 jours

Mechanical design

ANSYS DesignModeler	28-Oct-10	29-Oct-10	French	2 jours
AutoCAD 2010 - level 1	30-Sep-10	8-Oct-10	French	4 jours
AutoCAD Electrical 2010	25-Oct-10	12-Nov-10	French	5 jours
CATIA-Smarteam Base 2	1-Oct-10	19-Oct-10	French	7 jours
CATIA-Smarteam Base1	8-Nov-10	24-Nov-10	French	6 jours

Office software

ACCESS 2007 - Level 1 : ECDL	27-Sep-10	28-Sep-10	French	2 jours
CERN EDMS for Engineers	20-Oct-10	20-Oct-10	French	1 jour
CERN EDMS for Local Administrators	5-Oct-10	6-Oct-10	French	2 jours
CERN EDMS MTF in practice	2-Nov-10	2-Nov-10	French	0.5 jour
Dreamweaver CS3 - Level 2	22-Nov-10	23-Nov-10	French	2 jours
Dreamweaver CS3 - Niveau 1	30-Sep-10	1-Oct-10	French	2 jours
EXCEL 2007 - level 1 : ECDL	7-Oct-10	8-Oct-10	French	2 jours
EXCEL 2007 - level 1 : ECDL	29-Nov-10	30-Nov-10	English	2 days
EXCEL 2007 - Level 2: ECDL	21-Oct-10	22-Oct-10	French	2 jours
EXCEL 2007 (Short Course I) - HowTo... Work with formulae, Link cells, worksheets and workbooks	15-Nov-10	15-Nov-10	Bilingual	0.5 day

Technical training

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

EXCEL 2007 (Short Course II) - HowTo... Format your worksheet for printing	15-Nov-10	15-Nov-10	Bilingual	0.5 day
EXCEL 2007 (Short Course III) - HowTo... Pivot tables	16-Nov-10	16-Nov-10	Bilingual	0.5 day
Indico - Conference Organization	7-Oct-10	7-Oct-10	English	0.5 day
Indico - Meeting Organization	7-Oct-10	7-Oct-10	English	0.5 day
Individual Coaching	19-Oct-10	19-Oct-10	Bilingual	1 hour
Individual Coaching	4-Nov-10	4-Nov-10	Bilingual	1 hour
OUTLOOK 2007 (Short Course I) - E-mail	18-Oct-10	18-Oct-10	Bilingual	0.5 day
OUTLOOK 2007 (Short Course II) - Calendar, Tasks and Notes	18-Oct-10	18-Oct-10	Bilingual	0.5 day
OUTLOOK 2007 (Short Course III) - Meetings and Delegation	19-Oct-10	19-Oct-10	Bilingual	0.5 day
Powerpoint 2007 - Level 2	5-Nov-10	5-Nov-10	Bilingual	1 day
Project Planning with MS-Project	15-Nov-10	19-Nov-10	French	2 jours
Sharepoint Collaboration Workspace	25-Nov-10	26-Nov-10	French	2 jours
Sharepoint Designer (Frontpage) - Level 2	14-Oct-10	15-Oct-10	French	2 jours
Windows 7	16-Nov-10	16-Nov-10	English	0.5 day
Windows 7	28-Sep-10	28-Sep-10	French	0.5 jour
WORD 2007 - level 1 : ECDL	4-Oct-10	5-Oct-10	French	2 jours
WORD 2007 - level 2 : ECDL	18-Nov-10	19-Nov-10	French	2 jours
WORD 2007 (Short Course II) - Working with long document: styles and tables of contents	4-Nov-10	4-Nov-10	Bilingual	0.5 day
Special course				
Demonstrating Reliability with Accelerated Testing	20-Sep-10	21-Sep-10	English	2 days
Designing effective websites	27-Sep-10	28-Sep-10	English	2 days

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 and employees of CERN contractors, with some restrictions). In particular, quoted prices and programmes refer specifically to the CERN community.

Seminars

MONDAY 4 OCTOBER

TH JOURNAL CLUB ON STRING THEORY
14:00 - TH Auditorium, Bldg. 4

N=1 SCFTs from N=2 SCFTs

P. G. CAMARA / CERN

TUESDAY 5 OCTOBER

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

Extremal Three-point Correlators in Kerr/CFT

W. SCHULGIN / TEXAS A&M

THURSDAY 7 OCTOBER

A&T SEMINAR
08:00- Kjell Johnsen Auditorium, Bldg. 30-7-018

EMMA, design and commissioning of a non-scaling FFAG

B. MURATORI / COCKCROFT INSTITUTE, DARESBURY, UK

COMPUTING SEMINAR
10:00 - IT Auditorium, Bldg. 31-3-004

Simple, intuitive and efficient parallel programming in Java

P. VIRY / ATEJI

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

A composite scalar-vector system in a strongly interacting EWSB

R. TORRE / INFN, SEZIONE DI PISA

FRIDAY 8 OCTOBER

DETECTOR SEMINAR
11:00 - Bldg. 40-S2-C01 - Salle Curie

First Operation Experience with the ALICE TPC

S. ROSSEGGER / CERN

MONDAY 11 OCTOBER

TH JOURNAL CLUB ON STRING THEORY
14:00 - TH Auditorium, Bldg. 4

TBA

K. PAPADODIMAS / CERN

TUESDAY 12 OCTOBER

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

TBA

U. GURSOY / CERN

WEDNESDAY 13 OCTOBER

TH COSMO COFFEE
14:00 - TH Auditorium, Bldg. 4

TBA

T. TRAM / AARHUS & CERN

THURSDAY 14 OCTOBER

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

TBA

M. ROUND / SWANSEA UNIVERSITY

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

Composite Weak Bosons at the LHC

A. FRITZSCH / UNIVERSITY MUNICH