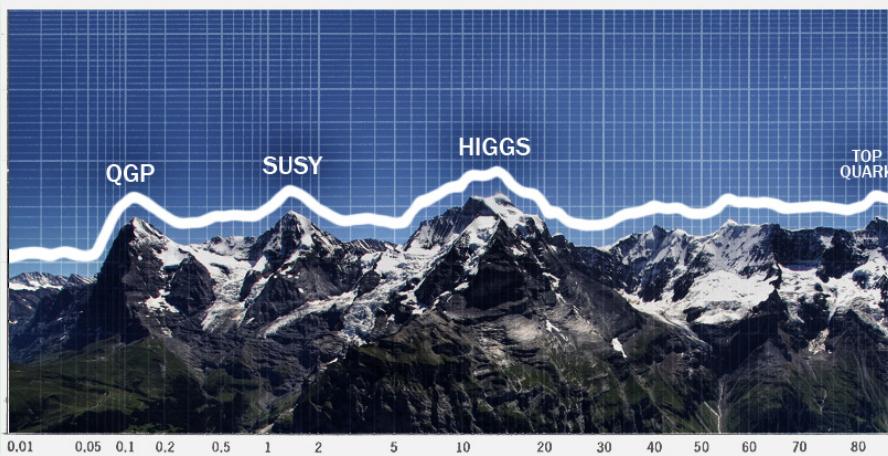




CERN Bulletin

Nos 13 & 14 – 30 March & 6 April 2011

The baton passes to the LHC



New physics discussed over the Italian Alps during the "Les rencontres de Moriond" conference. (Photographer: Paul Gerritsen. Adapted by Katarina Anthony)

Known by physicists as one of the most important winter conferences, "Les rencontres de Moriond" are actually a series of conferences spread over two weeks covering the main themes of electroweak interactions, high-energy interactions, cosmology, gravitation, astroparticle physics and nanophysics. The Bulletin attended the high-energy interactions session that saw presentations on, in particular, the search for the Higgs boson, the physics of the top quark and the search for new objects. "This is one of the rare conferences where there are still vibrant discussions between theorists and experimentalists. It is particularly motivating for the young students who come here to present their latest results," says Bolek Pietrzyk, main organizer of the high-energy interactions session.

Held in the picturesque mountain setting of La Thuile in the Italian Alps, the international conference "Rencontres de Moriond" showed how the baton of discovery in the field of high-energy physics is definitely passing to the LHC experiments. In the well-known spirit of Moriond, the conference was an important platform for young students to present their latest results. The Higgs boson might well be within reach this year and the jet-quenching phenomenon might reveal new things soon...

In the race for the highest collision energy, the Tevatron in the US preceded the LHC. In La Thuile, the Tevatron experiments presented new results confirming that there is no Higgs boson in the mass region between 159 GeV and 173 GeV (the result comes with a 95% confidence level – a number that underlines the statistical reliability of the figures). "CMS and ATLAS can't yet reach the Tevatron experiments' sensitivity in the search for the Higgs in this mass region," says Greg Landsberg, member of the CMS Collaboration. "However, within a year, if all goes well and if the LHC delivers the number of collisions we all expect, both CMS and ATLAS will be able to fully explore the mass region between 130 GeV and 460 GeV." If physicists do not see any evidence

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A word from the DG



An impressive start

This has been an excellent week for the LHC, with a succession of fills rapidly increasing the number of proton bunches to 194 per beam. This has allowed the experiments to reach a peak luminosity of $2.5 \times 10^{32} \text{ cm}^{-2}\text{s}^{-1}$, thereby surpassing the record for 2010 where we reached $2.0 \times 10^{32} \text{ cm}^{-2}\text{s}^{-1}$. At the time of writing, the integrated luminosity delivered by the LHC in 2011 is around 28 inverse picobarns, which is already more than half of the total 2010 dataset.

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A word from the DG

(Continued from page 1)

An impressive start

These are impressive numbers, but what impresses me most is how quickly the LHC operators are now able to turn the machine around between fills, and how well LHC running has been incorporated into the overall operation of CERN's accelerator complex.

The flexibility of the LHC was illustrated on Thursday when we started a short phase of running at 1.38 TeV per beam, equivalent to the energy-per-nucleon of a lead-ion run. This lower energy data will be used by the experiments, in particular by ALICE, to compare the results of nuclear interactions with ions with those of protons at the same energy per nucleon. Operation at 1.38 TeV per beam with protons will continue until Saturday giving us some more time at 3.5 TeV per beam over the weekend before a scheduled technical stop begins on Monday 28 March.

Another important recent event in the life of CERN was the March Council meeting. It was largely business as usual, but I'd like to highlight the report given to Council on the physics potential of running the LHC through 2011 and 2012, notably in terms of the Standard Model Higgs search. It was gratifying to see a presentation from the joint ATLAS-CMS working group on the subject, since this is a good sign of the healthy nature of the collaborative competition between the two experiments. Two decades ago, it took the LEP experiments a lot longer to reach this point, and it's important that the LHC experiments have learned to work together so quickly. Taken together, and with good LHC running, the combined results of ATLAS and CMS should allow us to cover the full range for the Higgs, either confirming its existence or demonstrating conclusively that it does not exist. Either outcome would be an important result.

The Council reiterated its resounding endorsement of our plan to run through 2012. The performance of the LHC since the March meeting adjourned gives us every reason to believe that our delegates' confidence is well placed.

Rolf Heuer

The baton passes to the LHC

(Continued from page 1)

of the famous boson in that mass region, they will be able to conclude that no new particle exists with the properties of the Higgs boson and that mass. On the other hand, if a new signal appears in the data, the strict laws of statistics will force them to wait for more data before confirming any new discovery and this will only happen in 2012.

The Higgs boson is not the only new object that physicists are chasing. Experiments like LHCb are looking for new physics through the lens of rare decays of the B particle, which requires a very high sensitivity of the experimental apparatus and an extremely high accuracy in the data analysis. "In La Thuile, we showed that, after just a few months of operation, our detector has reached a sensitivity that in some cases exceeds that of other detectors that have been running for years," says Rob Lambert from the LHCb collaboration. "By the end of the year, we hope to be able to measure, among other things, the number of muons arising from the B decay. This is a very important measurement that complements the famous measurement performed by the D0 experiment. Last year, they showed for the first time an unexpected asymmetry in the number of muons. With our data, we will be able to confirm whether or not the observed phenomenon can be associated with any new physics."

In early December last year, the first ion-ion collisions at the LHC confirmed the astonishing jet-quenching phenomenon, one of the possible signatures of the quark-gluon plasma. "For the first time, in the LHC experiments we can actually see the disappearance of the energy of the recoiling jet that is interacting with the quark-gluon matter. At LHC we can gain new insights into the

strong interaction by doing quantitative studies of the dynamics of jet quenching," says Frank Ma from MIT and member of the CMS Collaboration. "The conference was a good opportunity for us to discuss the energy redistribution of the jet energy that happens over an unexpected wide angle. This important observation was recently made by CMS and ATLAS. In another highlight from the ALICE experiment, it was shown that the effects of the strongly interacting medium at lower particle momenta are stronger than those observed at RHIC. The LHC allows us to study the behaviour of the medium effects at high particle momenta. These recent findings will give valuable inputs to theorists to fully understand the jet quenching phenomenon."

Discovered in 1995 at the Tevatron, the Top quark has yet to be fully explored as, with its very high mass, it sits astride the border between Standard Model physics and new physics. "CMS and ATLAS presented here for the first time the result of their analysis on the whole 2010 data set. Their sensitivity in measurements of the top cross section is getting similar to that of Tevatron and the experiments are now ready to study other properties of the particle, such as the precise measurement of the mass. We will use the 2011 data to look for new physics in the production and decay mechanism of the top quark," says Meenakshi Narain, from Brown University in the US and member of the D0 and CMS Collaborations. "For the time being, the most precise measurement of the top quark mass and properties come from D0 and CDF but at the LHC we have already observed single top quark production, something that took us 14 years to observe at the Tevatron."

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LHC Report: An impressive start

Following careful collimator set-up and validation, the first phase of beam commissioning 2011 has come to

an end. The first stable beams were declared on Sunday 13 March with a moderate 3 bunches per beam and an initial luminosity of $1.6 \times 10^{30} \text{ cm}^{-2}\text{s}^{-1}$. Machine protection tests continued during the following week as the commissioning team made absolutely sure that all critical systems (beam dumps, beam interlock system, etc.) were functioning properly.

When these tests had finished, the way was opened to increased intensity

After about one month of operation, the LHC has already accumulated an integrated luminosity of 28 pb^{-1} , which corresponds to over 50% of the total delivered to the experiments in 2010. This impressive start to the LHC run in 2011 bodes well for the rest of year.

and the LHC quickly moved through the first part of its planned, staged intensity increase. Fills with increasing numbers of bunches were delivered to the experiments, culminating in a fill with 200 bunches per beam on the evening of Tuesday 22 March. With the reduced beam size at the interaction points in ATLAS and CMS this gave a peak luminosity of $2.5 \times 10^{32} \text{ cm}^{-2}\text{s}^{-1}$, comfortably beating last year's record made with 368 bunches.

On Thursday 24 March, the LHC switched to an energy of 1.38 TeV/beam to provide the experiments with some proton-proton collisions at the equivalent nucleon-nucleon centre of mass energy seen during the heavy ion run at the end of last year. These collisions are required to compare the behaviour of nucleon-nucleon collisions in the heavy ion environment with collisions free of the effects of the heavy ion medium. The data required should be delivered by the start of the weekend when the LHC will switch back to 3.5 TeV for some more physics running before the start of the 4 day technical stop planned for the end of March.

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A heatwave at CERN

CERN's two heating plants each comprise three gas* boilers, with generators of 15 MW

in the case of Meyrin and 5 MW in the case of Prévessin. Both inject pressurised water, superheated to 125 degrees, into several kilometres of pipes, 22 km on the Meyrin site and 5 km in Prévessin. "A single boiler is sufficient most of the time but a second kicks in automatically during very cold weather, and a third is there on stand-by," explains Christophe Martel, head of the GS Department section responsible for CERN's heating and air-conditioning systems.

All of CERN's buildings have a sub-station that receives the superheated water from the boilers and makes it available for use in

It's getting hot in Buildings 201 and 860, over-heating even... But no reason to panic! We're talking about the superheated water boilers of CERN's two heating plants, which heat all the buildings on the Meyrin and Prévessin sites.

different types of heating systems: hot-air systems in the case of most of the industrial-type halls, and hot-water systems in the office buildings. In the hot-water systems, the water circulates through the radiators at a temperature of between 40 degrees (in the case of recent buildings with good heat insulation) and 80 degrees.

Safety first

"The boilers operate at very high power," explains Christophe Martel, "and the operating rules are obviously very strict for safety reasons." In addition to twice-yearly inspections by the official Swiss body (ASIT – Association Suisse d'Inspection Technique) in Meyrin and the French one (an accredited control office) in Prévessin, the GS Department team conducts daily safety tests and checks the primary operations of the auto control system for each boiler every 72 hours in Meyrin and every 24 hours in Prévessin. "On the French site we plan to add two automatic safety systems that will allow us to perform

the checks every 72 hours instead of every 24 hours at present," adds Christophe. "The French control office will have to validate the changes but if all goes well we should be able to implement them by the summer."

Energy savings

The burners of the main boilers on both sides have undergone a number of changes with a view to optimisation. The one on the Prévessin site had to be replaced, in fact, while the one on the Meyrin site was reconfigured. Thanks to these changes, real-time combustion analysis involving constant measurement of the CO, CO₂, O₂, NO and SO₂ concentrations is now possible, so that the burner can be permanently tuned to reduce the flow of gas to the minimum. "Data from all the installations are analysed in real-time," explains Christophe. "Thanks to this, and perfect optimisation, we have been able to reduce power consumption by over 10% when the boilers are at full power." The heating plants generally only run from September to May, so the GS Department team intends to optimise two other boilers when they are switched off this summer.

Anaïs Schaeffer

* The boilers in Meyrin have their gas supplied by Services Industriels de Genève. Those in Prévessin are supplied by Gaz de France (GDF). The overall 2010 annual gas consumption for CERN was about 90 GWh.



View of the three boilers and the control centre of the Meyrin heating plant.

TOTEM Construction Complete

"Installing the T1 detector was an important milestone for TOTEM," says Joachim Baechler, Technical Coordinator for TOTEM. Enrico Robutti from Genova, responsible for the T1 project, added: "The

T1 detector was carefully installed into the end-caps of the CMS experiment over the technical stop – a delicate operation that required the CMS detector to be opened. After the successful installation, we have now begun taking calibration data in preparation for the special runs during 2011/12."

Also the Roman Pot project has now been completed with the installation of 12 additional detector packages at a distance of 147 m from the interaction point. "This was an extremely delicate operation as, during data taking, the sensors in these installations will approach the LHC beam centre within a few millimeters, and therefore their alignment has to be precise on the level of better than 100 microns. All services have been installed and tested and the detectors are now running to our satisfaction," says Gennaro Ruggiero, the Roman Pot project leader.

The particle detectors T1 together with the previously installed T2 surround the LHC pipe, providing a 360 view of the charged particles emerging from pp collisions with a greatly enhanced coverage in the forward directions. While the team had been able to measure proton scattering with the previous installation, the addition of T1 completes the TOTEM experiment. The

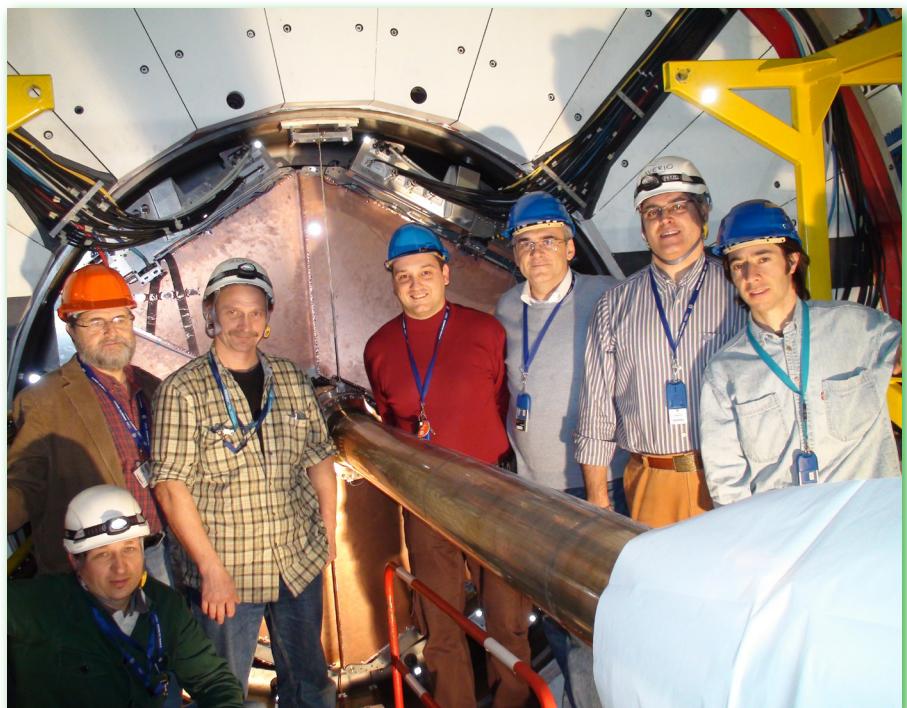
The winter technical stop saw the final steps of the installation of the TOTEM experiment. After 8 years of development, the inelastic telescope T1 was successfully installed inside CMS at both sides of the interaction point. This detector joins the previously installed inelastic telescope T2 and the Roman Pots (147m and 220m from the CMS interaction point) to study both elastic and inelastic proton scattering.

completion will allow TOTEM to take precise measurements of the proton-proton inter-

action cross-sections, as well as detailed studies of elastic and diffractive pp scattering. For this, TOTEM has to use dedicated runs at low luminosities with a reduced pile-up of events, but also to allow the Roman Pot detectors to approach the beam to the smallest possible distances.

The TOTEM collaboration expects an exciting year in 2011.

Katarina Anthony



The Genova team who designed and built the detector in front of the '+' arm of the T1 telescope after final insertion. All the detector chambers were assembled at the Petersburg Nuclear Physics Institute, Gatchina, Russia. Major contributions to the construction of the support structure and the installation process came from CERN.



Installation of one of the T1 support trusses inside the CMS endcap ('-' side).

ATLAS gets its own luminosity detector

The detectors of the ALFA system are installed at \pm 240 meters from the interaction point 1, on either side of the

ATLAS detector. The whole system consists of four stations, two on each side of the interaction point. Each station is equipped with two Roman Pots; each pot – that is separated from the vacuum of the accelerator by a thin window but is connected with bellows to the beam-pipe – can be moved very close to the beam. "The Roman Pot technique has been used successfully in the past for the measurement of elastic scattering very close to the circulating beam," says Patrick Fassnacht, Technical Coordinator of the project. "The ATLAS Roman Pots have been designed to move the detectors as close as 1 mm to the beam, but only from above and below, due to the mechanical constraints imposed by the two horizontal beam-pipes of the LHC." The set-up is very similar to the one of TOTEM at point 5 of the LHC ring but with fewer pots.

The detectors are housed in the ALFA Roman Pots; the detector consists of scintillating fibers that ensure a very good spatial resolution of \sim 30 microns and a robust technical design. "Inserting the detectors into the pots requires a careful precision work due to the small margins and the tight working space available," says Thomas Schneider from the PH/DT group who together with Sune Jacobsen, PhD student from the Niels Bohr Institute in Copenhagen, was responsible for the insertion. "Special tooling was prepared and insertions were exercised several times at the surface. This good preparation paid

During the winter shutdown, the ATLAS collaboration has completed the installation of ALFA, the detector system that aims at the LHC absolute luminosity at Point 1 analysing the elastic scattering of protons at small angles.

off; the insertion into the tunnel went very smoothly."

The installation work has involved many people both from ATLAS participating Universities and from various CERN Departments. "Particularly critical was the

bake-out of the equipment after the installation of the stations into the beam lines, but eventually everything went well," said Anne-Laure Perrot, in charge of the experiment interface with the LHC machine.

The ALFA system, with its 30 physicists and engineers from over 8 institutes, is now getting its very first physics data after a final commissioning period with the beam, which has just started.

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Upper and lower ALFA Roman Pots as installed in sector 8-1 of the LHC tunnel, 240 metres from the ATLAS Interaction Point.

MoEDAL expands

MoEDAL (Monopole and Exotics Detector At the LHC), the seventh LHC experiment, was approved by the CERN Research Board at the end of 2009. Its goal is to search for very specific exotics such as highly ionising massive stable (or pseudo-stable) particles with conventional electrical charge and magnetic monopoles. "The main LHC experiments are designed to detect conventionally charged particles, with conventional ionisation patterns, produced with a velocity near the speed of light. However, the MoEDAL detector is designed to search for highly ionising particles that are either highly charged and/or moving very slowly (less than half the speed of light)," says James Pinfold, spokesperson of the experiment. Thus, MoEDAL has a detection efficiency and physics range that is complementary to the conventional general-purpose LHC detectors.

In its final configuration, scheduled for 2013, MoEDAL will consist of 400 NTD stacks [see box] distributed over an area of 25 m² on the walls of the cavern that houses the LHCb's VELO detector at Point 8 of the LHC ring. "In November 2009, we installed a test array of 18 NTD stacks covering a total area of one square metre," explains James. During the recent winter shutdown, we added a further test array of 110 NTD stacks. MoEDAL

The MoEDAL collaboration deployed a test array of 18 plastic Nuclear Track Etch Detector (NTD) stacks – covering an area of 1 m² – in the MoEDAL/VELO cavern at Point 8 of the LHC ring in November 2009. This small array was supplemented by a further 110 stacks this past January. The MoEDAL test array, which now covers an area of 8 m², will reveal its secrets early in 2013. The full MoEDAL detector will be installed in the next long shutdown of the LHC in 2013.

NTD stacks now occupy about 8 m² of the MoEDAL/VELO cavern wall, which is a third of the total scheduled area."

The MoEDAL team also removed two of the original NTDs during the shutdown. They are on their way to the NASA Space Radiation Laboratory at the Brookhaven National Laboratory in the United States, where they will undergo tests to determine the calibration needed to analyse the detectors currently in place. "The Laboratory produces heavy ion beams at sufficiently high energies to calibrate our NTDs," explains James. "These tests will allow us to see how our detectors respond to particles with ionisation similar to the ones we are hoping to detect."

The 128 NTDs currently installed will be removed in 2013. When they are analysed in the laboratory they will be examined for the tell-tale signs of direct production of magnetic monopoles and/or stable massive particles. Like photographic film, the MoEDAL detectors will not reveal their content until they are "developed". Let's hope that they have pleasant surprises in store for us...



View of the MoEDAL detectors installed at Point 8 of the LHC ring in January 2011.



NASA Space Radiation Laboratory where the two NTDs will be sent for calibration tests.

Nuclear Track Detectors (NTDs)

The NTD stacks of the MoEDAL experiment comprise ten layers of plastic and are particularly sensitive to highly ionising particles such as magnetic monopoles but are indifferent to the high-energy particles produced in the proton-proton collisions at the LHC. Their response to highly ionising particles is well understood and their analysis provides accurate information on the detected particles' charge, energy loss and trajectory.

NTDs are completely passive: they do not require a trigger, gas, high voltage or readout electronics. They are radiation-resistant, easily calibrated with heavy-ion beams, and their response to highly ionising particles is very well understood. Last but not least, they provide a full and cost-effective coverage of the experimental acceptance.

Further information about MoEDAL can be found at:

http://web.me.com/jamespinfold/MoEDAL_site/Welcome.html

Anaïs Schaeffer

It's all change at the visit points

The permanent exhibition in the Globe of Science and Innovation, the "Universe of Particles", attracts large numbers of visitors. A high-tech venue offering an overview of CERN's research

goals, tools and impact throughout the world, the Globe acts as a showcase for the Laboratory. "The Globe is an ideal place to start a tour of CERN. After experiencing a virtual experiment at the heart of the Universe, visitors are keen to find out what's behind it all, to know more about the research we do here at CERN. When it was still possible to see the LHC detectors, visitors were bowled over by their huge size. To continue to surprise them to the same extent, we are planning to reorganise the visit itineraries," explains Rolf Landua, head of the Education Group, which is also responsible for public outreach.

The main visit points are the CERN Control Centre (CCC), the Computer Centre (CC) and SM18. "These venues offer lots of interesting things to see but it's not very clear to visitors at present how they all fit together," says Rolf. "It's therefore vital that we establish a connection between them in order to make visits more coherent." The plan is to exhibit objects, accompanied by animations, graphics, videos and other audiovisual supports which the guides can use to supplement their explanations and thus make a bigger impact. "These developments will help to make visits more fun, more intuitive, clearer and more exciting," underlines Rolf.

The following plans have been drawn up for the various visit itineraries:

58,000 people visited CERN in 2010. In spite of this success, the Organization has plans to review the installations at the various visit points with a view to making the links between them clearer and, above all, making tours of the Laboratory more spectacular.

CERN Control Centre and Computer Centre

Today, at both the CCC and the CC, visitors gather in a simple entrance area that's fairly bare except for posters and screens on the walls. The most interesting parts, the LHC Control Room and the Grid installations, are behind a glass screen. Unfortunately, the majority of visitors are not authorised to enter these rooms and have to remain in the entrance area throughout the visit. The crucial role of these two points at the heart of CERN's high-tech installations is by no means clear to visitors. Audiovisual tools explaining what goes on in the CCC and the CC could be used to underline this aspect. One idea is a giant screen that would show animations then become transparent to reveal the Control Room or the Grid installations.

SM18

The SM18 large multi-purpose hall houses important installations and interesting objects such as cross-sections of the LHC magnets, superconducting cables and, in particular, a life-size mock-up of a section of the LHC tunnel. SM18 thus offers visitors a range of interesting opportunities. However, in the case of large groups, visitors tend to

spread out across the hall and it becomes difficult for them to hear what the guide is saying. In addition, although the LHC mock-up is one of the most popular attractions of the visit, it doesn't really give you the feeling of what it's like to be inside the LHC tunnel 100 m below ground. It is therefore planned to make a new model of the inside of the tunnel to make it more life-like. Another idea is to group all the main elements of the visit together and to supplement them with high-tech audiovisual supports explaining how they work.

The three visit points mentioned above are only the start of the project to improve the service offered to visitors. With over 200 visitors a day expected in the coming years, the itinerary will be supplemented with other stops to allow tours to be varied rather than always being concentrated in the same place. Other visit points should follow. The whole project should be finalised some time in 2012.

Laëtitia Pedroso



CERN Control Centre.



View of the cryogenic band line at SM18 for test the LHC magnet.



Picture of the Computer Center taken during the Photowalk 2010.

In Bern high-energy physics shares proton beams with the hospital

The first Bern Cyclotron symposium will take place on 6 and 7 June this year. The event is being organised by LHEP in collaboration with Bern's Inselspital and will bring together experts – including several from CERN –

to promote research activities at the new Bern Cyclotron Laboratory. "The cyclotron will be installed in a dedicated new building, which is under construction on the campus of the hospital. Its main function will be the production of radiotracers for use in PET imaging", explains Saverio Braccini from LHEP, a senior researcher and the chair of the symposium. "Thanks to the collaboration between the University and the hospital, the building has been designed to host an external beam line, which will be independent from the production activities and fully dedicated to research".

The role of radiotracers is crucial in PET technology (see box) and a lot of research over the years has gone into finding the most appropriate and effective radionuclide. Physicists have been at the frontline of the research in this field right from the start. One of the main requirements for the clinical use of radionuclides is their life-time, which needs to be relatively short in order to limit the negative effects of radioactivity in the body. However, this also requires

A joint venture bringing together public institutions and private companies is building a new facility on the campus of Inselspital, Bern's university hospital. The facility will host a cyclotron for the production of radiopharmaceuticals for use in PET as well as in multidisciplinary research laboratories for the development of new products for medical imaging. The Laboratory for High Energy Physics (LHEP) of Bern University, which is deeply involved in the project, will have access to a dedicated beam line and specialized labs.

these isotopes to be produced in close proximity to the imaging facility. "Today, the most commonly used radionuclide is Fluorine-18, whose life-time is less than two hours. With the new cyclotron, we will be able to produce Fluorine on site but, thanks to the external beam line, we will also be able to test other isotopes, which might be used not only for diagnostics but also for therapy", says Konrade von Bremen, Director of SWAN Isotopen, the company created by the Inselspital and the University of Bern in 2007 to lead the project.

The layout of the new building is a good illustration of the successful collaboration between the various institutions involved in the project. "The cyclotron and the beam line are being built by the Belgian company IBA and will be installed in the basement of the building, where physicists from LHEP and other institutions will carry out research in a dedicated lab. The first floor will host the radiochemistry and radiopharmacy laboratories, where the isotopes will be chemically

The IBA Cyclotron

The IBA Cyclone 18/18 is a dual-source high-current proton cyclotron, specifically designed for radioisotope production. Proton beams of 18 MeV and a maximum intensity of 150 µA can bombard one or two targets simultaneously. The machine features eight out-ports with targets for different radioisotope production. In the configuration chosen for Bern, one out-port will direct the beam on a 6 m beam line ending in a separate bunker.

How PET works

Positron Emission Tomography (PET) is a medical imaging technique that can help detect cancerous cells as well as study other functional processes in the body. The system detects the gamma rays emitted by the recombination of electrons in the body with positrons emitted by the tracer injected into the patient. The technique is widely used in oncology, where the computer-driven image reconstruction maps the matter-antimatter annihilations. Radionuclides used in PET are incorporated into compounds – like Fluorine-18 marked glucose (FDG) – for which tumours are particularly thirsty. Therefore, in those regions, the rate of the positron-electron recombination is higher and the tumour can be detected.

synthesised to form the radiotracers that will be injected into the patients. On the second floor, offices and labs will allow multidisciplinary research activities, exploiting the synergies among the stakeholders of our project to the maximum. Finally, the top two floors will host treatment and patients' rooms", explains Saverio Braccini. "The possibility to exploit a dedicated beam line for research in medical applications of particle physics is a great opportunity and will also facilitate the training of a new generation of physicists with specific and currently rare competencies", says Antonio Ereditato, Director of LHEP. "Particle physics has very often produced valuable knowledge and techniques for the benefit of society. With this project we will exploit our expertise for applications in medicine and, at the same time, seek to make scientific advances in the field".

The cyclotron will be shipped to Bern in a few weeks' time, and the first isotopes will be produced towards the end of the year.



Construction of the new facility is ongoing at Bern's University Hospital, where the cyclotron will be installed.

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100th International Women's Day Celebrated at CERN

Addressing a packed conference room, Helene Goetschel, a visiting gender studies researcher from Uppsala University, gave a presentation on a subject unfamiliar to most physicists: sociology. And more specifically, on the findings of gender researchers examining the field of high-energy physics. "It was heartening to see so many CERN physicists interested in hearing how sociologists and historians see their community," said Helene. "Examining our personal issues with gender is difficult, and I applaud anyone who takes an interest in the subject."



In celebration of the 100th year of International Women's Day on 8 March, a special colloquium looking at high energy physics from a gender studies perspective was held at CERN.

tered a 'glass ceiling' in her work. In 1990, she decided to change the focus of her studies to the history of science – specifically looking at the role of women in the discipline she had previously devoted her life to. In her hour-long presentation at CERN, Helene cast a kind but critical eye on the work culture of a modern physics group, and then continued the discussion in a lively Q&A session.

Among the research discussed was the 1980 report by Mary Gaillard, a physicist, entitled Report on Women in Scientific Careers at CERN. The report painted a bleak picture of CERN life 30 years ago, and found that 86% of female research physicists were not paid for their full-time work. The situation for CERN's female staff has obviously improved since then, although Helene thinks more progress should be made through the international physics community: "Outside physics, I have found that women's role

in society is significantly better. Certainly, women physicists are now allowed to break away from their old-fashioned roles and can be more diverse. But when you compare the role of women in physics with other so-called 'masculine' disciplines, physics still lags quite far behind."

Helene discussed many male-led 'rites of passage' that have become engrained into the physics community, even pointing out the 'masculine' names given to experiments (TOTEM and ATLAS, among her many examples). "Hearing an analysis of these practices from people outside the science domain could help physicists become more self-aware," says Helene. "Just being invited to speak to CERN physicists is an important step forward in our common wish to make physics a welcoming area for both genders."

A recording of the colloquium, and its accompanying slides, are available on Indico:

[http://indico.cern.ch/
conferenceDisplay.py?confId=129808](http://indico.cern.ch/conferenceDisplay.py?confId=129808)

Katarina Anthony

New arrivals

On Thursday 24 March 2011, at the second part of the Induction Programme, members of CERN Management welcomed recently-recruited Staff Members and Fellows (photographed

here with Jean-Marc Saint-Viteux, Deputy Head of HR Department and Vincent Vuillemin, CERN Ombuds)

HR Department



CERN takes part in Earth Hour

Along with individuals, companies and tourist attractions in thousands of towns and cities all over the world participating in the fourth annual Earth Hour event, CERN will turn off the lights of the Globe for 60 minutes at 8.30 p.m. on Saturday 26 March.

CERN's participation in the initiative is one of several examples of its commitment to respect the environment and keep its

From 8.30 to 9.30 p.m. on Saturday, 26 March 2011, the Globe of Science and Innovation will be plunged into darkness to mark CERN's participation in Earth Hour. A growing number of countries and cities across the planet are involved in this global initiative against climate change, which was launched by the WWF in 2007.

ecological footprint to the minimum. A recent example under the green transport heading was the replacement of part of CERN's petrol vehicle fleet with cars running on natural gas with a view to reducing air pollution. Other examples include the new solar panels on the roof of Restaurant No.



The lights on the Globe were switched off for the 2009 Earth Hour event.

1 and the green roof of the new Building 42, which allows rainwater to be retained. Further initiatives, such as recovering the energy used to operate CERN's accelerators to heat certain buildings, are under study.

Last year, one thousand million people in 128 countries took part in "Earth Hour, 60 Minutes for the Planet", by switching off their lights at 8.30 p.m. local time. This year, the movement is attracting more and more participants from old hands like Australia, where it first began in 2007, to new countries including Jamaica, Uganda and Swaziland.

The Earth Hour internet site invites people across the world to monitor their energy consumption throughout the year, pointing out that every little helps. The site's "Beyond the Hour" platform allows users to share their ideas for respecting the planet, such as switching off electrical appliances that are rarely used or taking public transport rather than using their own cars.

Don't forget to switch off your lights at home at 8.30 p.m. on 26 March and in your office before you leave and take up your candles!

Anaïs Vernède



Library
Bibliothèque

News from the Library

A new key reference work for the engineer: ASME's Boiler and Pressure Vessel Code at the CERN Library

The CERN Library now holds a copy of the complete ASME Boiler and Pressure Vessel Code, 2010

The Library is aiming at offering a range of constantly updated reference books, to cover all areas of CERN activity. A recent addition to our collections strengthens our offer in the Engineering field.

edition. This code establishes rules of safety governing the design, fabrication, and inspection of boilers and pressure vessels, and nuclear power plant components during construction. This document is considered worldwide as a reference for mechanical design and is therefore important for the CERN community.

The Code published by ASME (American Society of Mechanical Engineers) is kept current by the Boiler and Pressure Committee, a volunteer group of more than 950 engineers worldwide. The Committee meets regularly to consider requests for interpretations, revision, and to develop new rules. The CERN Library receives updates and includes them in the volumes until the next edition, which is expected to be issued in 2013, is available.

Come and consult this new resource in the Library, reference collection, at:

[http://cdsweb.cern.ch/
record/1316452?ln=en](http://cdsweb.cern.ch/record/1316452?ln=en)

If you have questions or comments, please contact: library.desk@cern.ch

CERN Library



Ombuds' Corner Le coin de l'Ombuds

In this series, the Bulletin aims to explain the role of the Ombuds at CERN by presenting practical examples of misunderstandings that could have been resolved by the Ombuds if he had been contacted earlier. Please note that, in all the situations we present, the names are fictitious and used only to improve clarity.

Confidentiality

Jane* came to the Ombuds to share her concerns about the actions of Mike*, one of her senior colleague supervisors, and insisted on absolute confidentiality. The Ombuds promised to keep the information confidential following the terms of his mandate. During the discussion it appeared that the whole Group was affected by the situation, spending a lot of time discussing how to resolve the problem instead of focussing on their main responsibilities. The risks for the Organization seemed very high and could possibly endanger the safety of operations.

On one side, the Ombuds believed that it was essential to bring this matter to the attention of senior management, suggesting the need for vigilance, action or intervention on their part. This would be done without revealing Jane's name or the specific information she conveyed. However, given past experience with the group, the number of people involved in the work unit, and the nature of its organisation, there was some risk that her identity could become known, or at least suspected, leading to a breach of confidentiality.

What action could the Ombuds possibly take?

The Ombuds mandate specifies: "*The obligations of confidentiality may be waived solely with the consent of the person(s) concerned. The only exception to this rule is when the Ombuds deems there to be an imminent threat of serious harm to persons or property.*" The threat was not imminent; such an exception to the confidentiality rule could not be considered.

The Ombuds suggested to Jane that she speak with Mike directly, or give him permission to have a confidential discussion about her case with Mike or with the Management. She refused both suggestions, as she was too afraid of possible retaliation. However, she agreed that the present situation could not last, considering her own interests, as well as those of the Group and the Organization. She finally agreed that the Ombuds could anonymously draw the problem to the attention of her senior Group Leader, suggesting that the whole Group be reminded about the safety rules involved in operations.

It was also agreed that, if ever any suspicion of retaliation were to materialise, Jane* would contact the Ombuds immediately to discuss the situation.

Conclusion

Confidentiality, along with impartiality, neutrality and independence, is one of the essential pillars of the function of the Ombuds and has to be fully respected. Concerning retaliation, the Ombuds' mandate specifies: "*Attempted or actual retaliation against a person who contacted or cooperated with the Ombuds shall not be tolerated and may result in disciplinary action.*"

In some cases, the situation cannot be left unattended as risks are involved, so an informal agreement can be reached between the visitor and the Ombuds that if any suspicion of retaliation arose as a consequence of the confidential action of the visitor, he/she could immediately come back to the Ombuds to arrange other actions to be put in place.

Contact the Ombuds early!

<http://cern.ch/ombuds>

Vincent Vuillemin

* Names and story are purely fictitious.



GUIDELINES FOR THE 2011 MARS EXERCISE

Full details of the Merit Appraisal and Recognition Scheme (MARS) are available via the HR Department's homepage or directly on the Department's MARS web page:

<https://admin-eguide.web.cern.ch/admin-eguide/mars/mars.asp>

You will find on these pages:

- * MARS procedures, including the MARS timetable for proposals and decisions;
- * regulations with links to the scheme's statutory basis;
- * a list of frequently asked questions;

- * useful documents with links to relevant documentation, e.g. mandate of the Senior Staff Advisory Committee (SSAC); and
- * related links and contacts.

Department Head Office
Human Resources Department



Official news

ADMINISTRATIVE CIRCULAR NO. 20 (REV. 2) – USE OF PRIVATE VEHICLES FOR JOURNEYS ON OFFICIAL DUTY

Administrative Circular No. 20 (Rev. 2) entitled "Use of private vehicles for journeys on official duty", adopted following discussion in the Standing Concertation Committee meeting of 21 September 2010 and entering into force on 1 January 2011, is available on the intranet site of the Human Resources Department:

<http://cern.ch/hr-docs/admincirc/admincirc.asp>

It cancels and replaces Administrative Circular No. 20 (Rev. 1) entitled "Use of private vehicles on official duty" of April 1993. This new version introduces, in particular, the payment of a kilometer allowance in case of emergency during standby duty or when on call and a simplified calculation of the allowance for journeys between sites. This circular also clarifies the type of permitted private vehicles.

*Department Head Office
Human Resources Department*

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

ADMINISTRATIVE CIRCULARS NO. 22A (REV. 1) – AWARD OF ADDITIONAL PERIODS OF MEMBERSHIP IN THE PENSIONS FUND FOR LONG-TERM SHIFT WORK AND NO. 22B (REV. 1) – COMPENSATION FOR LONG-TERM SHIFT WORK HOURS

Administrative Circulars No. 22A (Rev. 1) entitled "Award of additional periods of membership in the Pension Fund for long-term shift work" and No. 22B (Rev. 1) entitled "Compensation for long-term shift work hours", adopted following discussion in the Standing Concertation Committee meeting of 21 September 2010 and entering into force on 1 March 2011, are available on the intranet site of the Human Resources Department:

<http://cern.ch/hr-docs/admincirc/admincirc.asp>

They cancel and replace Administrative Circulars No. 22A and 22B entitled "Award of additional periods of membership in the Pension Fund to shift workers (Early Departure)" and "Duration and special compensation for shift work" of January 2000. This new version clarifies, in particular, the compensation of effective long-term shift work hours.

*Department Head Office
Human Resources Department*

ADMINISTRATIVE & OPERATIONAL CIRCULARS - REMINDER

All Administrative and Operational Circulars are available on the intranet site of the Human Resources Department at the following address:

<http://cern.ch/hr-docs/admincirc/admincirc.asp>

*Department Head Office
Human Resources Department*



Take note

Prix André LAGARRIGUE
Remise du Prix 2010 à Michel DAVIER

Laboratoire de l'Accélérateur Linéaire

le mardi 26 avril 2011 à 14h à l'Auditorium Pierre Lehmann Laboratoire de l'Accélérateur Linéaire

Les orateurs: Barry Barish, Hesheng Chen (tbc), Pierre Encrenaz, Jacques Haissinski, David Leith (tbc), Antonio Pich, Lee Roberts, Luigi Rolandi

<http://events.lal.in2p3.fr/PrixLagarrigue/>

JOURNÉE GILLES SAUVAGE
JEUDI 28 AVRIL 2011 À 14H00
LAPP, ANNECY-LE-VIEUX
AUDITORIUM MARCEL VIVARGENT

<http://lapp.in2p3.fr/GillesSauvage>

Gilles Sauvage au LAPP - Introduction Yannis Karyotakis, LAPP Annecy
Calorimétrie et Gilles Sauvage : entre LEP et LHC Daniel Fournier, LAL Orsay
Premiers résultats de physique avec ATLAS Mohamed Aharrouche, Johannes Gutenberg Univ. Mainz
Un portrait Lucia Di Giacomo, Université de Savoie & LAPP Annecy Isabelle Wingerter-Seitz, LAPP Annecy
Quel futur pour la physique des particules ? Daniel Treille, CERN

Comité d'organisation: Claude Bombe, Lucile Di Giacomo, Yannick Karyotakis, Isabelle Wingerter-Seitz

Sponsoring: lapp, CERN, IN2P3, UNIVERSITÉ SAVOIE, SP

First Bern Cyclotron Symposium
University of Bern, June 6 - 7, 2011

The Symposium features review talks from international experts to foster research activities at the new Bern Cyclotron Laboratory

6 CPD for the continuing education of SSRMP

Registration and information: <http://www.lhep.unibe.ch/cyclotron>

Organizing Committee:
S. Beccaria (Chair), M. Esposito (Secretary),
T. Krämer, C. Pistillo, P. Scarpelli (co-Chair),
LHEP Laboratorium für Hochenergiephysik

Universität Bern
Hochschulstrasse 4, 3012 Bern
Hauptgebäude, Hörsaal 101

INSESPITAL
UNIVERSITÄRSPÄTIAL BEERN
Klinik für Nuklearmedizin
BERN UNIVERSITÄT HOSPITAL

UNIVERSITÄT
BERN



Take note

MOBILITY SURVEY AT THE FRENCH/SWISS BORDERS IN THE CANTON OF GENEVA

The Permanent Mission of Switzerland in Geneva has informed CERN that a survey of the journey habits of people travelling to Geneva will be conducted between the end of March and the beginning of April 2011 with a view to determining necessary improvements to local transport infrastructures.

Questionnaires will be distributed at the borders between 6.30 a.m. and 8.30 p.m. to all those travelling to Geneva, whether on foot or by two-wheeled vehicle, car, bus or train. Each crossing point will be surveyed on one day only. The distribution of the questionnaires will be organised in such a way as to cause minimum traffic disruption but is likely to cause tail-backs on certain routes. Those receiving a questionnaire will be invited to complete it online, on the relevant web site, or to submit it by post free of charge.

The Direction générale de la mobilité (DGM), the Service de la mobilité of the Canton of Vaud, the French authorities involved in organising the survey, the relevant police services and the border guards request that everyone comply with the temporary road signs that will be set up and to treat the survey personnel with courtesy.

For further information, please consult the website of the Canton of Geneva.

*Relations with the Host States Service
Tel.: 72848*

REMERCIEMENTS

Madame Maria Pagiola et sa famille remercient vivement tous les amis et collègues d'Emilio Pagiola, qui ont pris part à leur deuil.

TO ALL MEMBERS OF THE PERSONNEL

Summer work for children of members of the personnel

During the period from 13 June to 16 September 2011 inclusive, there will be a limited number of jobs for summer work at CERN (normally unskilled work of a routine nature), which will be made available to children of members of the personnel (i.e. anyone holding an employment or association contract with the Organization). Candidates must be aged between 18 and 24 inclusive on the first day of the contract, and must have insurance coverage for both illness and accident. The duration of all contracts will be 4 weeks and the allowance will be 1717 CHF for this period. Candidates

should apply via the HR Department's electronic recruitment system (E-rt):

https://ert.cern.ch/browse_intranet/wd_pds?p_web_site_id=1&p_web_page_id=8886&p_no_apply=&p_show=N

Completed application forms must be returned by 11 April 2011 at the latest. The results of the selection will be available by the end of May 2011.

For further information, please contact:

Virginie.Galvin@cern.ch

*HR Department
Tel. 72855*



Lunchtime Film presentation

TV News Magazine presentations:

Close Up Gendai by NHK (2010)

In this episode of Close Up Gendai, dark matter is the subject of investigation and one of the unsolved mysteries of the Universe. The show highlights the research being done around the globe to try to understand dark matter, including the research happening at the XMASS experiment in Japan, the Cryogenic Dark Matter Search experiment in the US, as well as CERN's LHC experiments.

Close Up Gendai will be presented on Friday, 8 April from 13:00 to 13:30 in the Council Chamber Language: Japanese

Carolyn Lee





External meeting

Université de Genève
Département de physique
24, quai Ernest-Ansermet
CH-1211 Genève 4
Tél: (022) 379 62 73
Fax: (022) 379 69 92

Wednesday 30 March 2011

PARTICLE PHYSICS SEMINAR

at 17.00 hrs – Stückelberg Auditorium

Software Engineering in Particle Physics

Dr. Christoph Tunnel / Oxford

Particle physicists rely heavily on programs which they develop themselves for their day-to-day responsibilities such as developing a high-level trigger, analyzing calibrations, or performing fancy fits. Within the last 10 years software engineering has matured from self-appointed gurus preaching coding rules over beers to peer-reviewed studies with data. What can we learn from industry? Which differences are intrinsic to the needs of physics and which are bad habits? In this talk I will discuss how our software challenges compare to industry and what they've learned that we could steal. I will use personal case studies from ATLAS, neutrino experiments, and accelerator experiments. How much does the programming language matter? Is an expert programmer really 10 times more productive than a non-expert? Does test-driven-development actually work? There will be something for both new and old programmers alike.

Information : <http://dpnc.unige.ch/seminaire/annonce.html>

Organizer : G. Pasztor



Academic training

CERN ACADEMIC TRAINING PROGRAMME 2011

LECTURE SERIES

30, 31 March and 1 April 2011

Jets at Hadron Colliders

11:00-12:00 -

Bldg. 40-S2-A01 - Salle Andersson

These three lectures will discuss how jets are defined at hadron colliders, the physics that is responsible for the internal structure of jets and the ways in which an understanding of jets may help in searches for new particles at the LHC.

LECTURE SERIES

4, 5, 6 and 7 April 2011

Flavour Physics and CP Violation

Dr. Yosef Nir (Weizmann Institute of Science, Rehovot, Israel)

11:00-12:00 -

4, 6 and 7 April - Bldg. 222-R-001 - Filtration Plant

5 April - Bldg. 80-1-001 - Globe 1st Floor

The B-factories have led to significant progress in our understanding of CP violation and of flavour physics. Yet, two flavour puzzles remain. The standard model flavour puzzle is the question of why there is smallness and hierarchy in the flavour parameters. The new physics flavour puzzle is the question of why TeV-scale new physics was not signalled in flavour changing neutral current processes. The high pT experiments, ATLAS and CMS, are likely to shed light on these puzzles. As concerns CP violation, the LHC will lead to progress on the puzzle of the baryon asymmetry as well.

Organiser: Maureen Prola-Tessaur/PH-EDU

CERN TECHNICAL TRAINING: AVAILABLE PLACES IN FORTHCOMING COURSES

The following course sessions are scheduled in the framework of the 2011 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

| | | | | |
|---|-----------|-----------|----------|---------|
| JCOP - Finite State Machines in the JCOP Framework | 05-APR-11 | 07-APR-11 | 3 days | English |
| JCOP - Joint PVSS-JCOP Framework | 09-MAY-11 | 13-MAY-11 | 4.5 days | English |
| Object-oriented Design Patterns | 11-APR-11 | 13-APR-11 | 3 days | English |
| Python - Hands-on Introduction | 09-MAY-11 | 12-MAY-11 | 4 days | English |
| Python: Advanced Hands-On | 28-Mar-11 | 31-Mar-11 | 4 days | English |
| JAVA - Level 1 | 13-APR-11 | 15-APR-11 | 3 days | English |
| JCOP - Finite State Machines in the JCOP Framework | 24-MAY-11 | 26-MAY-11 | 3 days | English |
| CERN openlab Multi-threading and Parallelism Workshop | 09-MAY-11 | 10-MAY-11 | 2 days | English |
| ITIL Foundations (version 3) | 09-MAY-11 | 11-MAY-11 | 3 days | English |
| ITIL Foundations (version 3) EXAMINATION | 23-MAY-11 | 23-MAY-11 | 1 hour | English |
| Dealing efficiently with Oracle Performance Issues | 26-MAY-11 | 26-MAY-11 | 1 day | English |

Electronic design

| | | | | |
|---|-----------|-----------|--------------|-----------|
| Altium Designer - migration for occasional PCAD users | 03-MAY-11 | 06-MAY-11 | 3 jours | French |
| LabVIEW FPGA | 26-MAY-11 | 27-MAY-11 | 2 jours/days | Bilingual |
| LabVIEW Real-Time | 23-MAY-11 | 25-MAY-11 | 3 days | English |
| LabVIEW for Experts | 04-APR-11 | 08-APR-11 | 5 jours/days | Bilingual |
| Electromagnetic Compatibility (EMC) : Introduction | 06-APR-11 | 06-APR-11 | 3.5 hours | Bilingual |
| Expert VHDL for FPGA Design | 04-APR-11 | 08-APR-11 | 5 days | English |

Mechanical design

| | | | | |
|---|-----------|-----------|---------|---------|
| ANSYS - Introduction to Classical ANSYS | 11-APR-11 | 14-APR-11 | 4 days | English |
| ANSYS Parametric Design Language | 02-MAY-11 | 04-MAY-11 | 3 days | English |
| AutoCAD 2011 - level 1 | 28-Mar-11 | 05-APR-11 | 4 jours | French |
| AutoCAD Mechanical 2011 | 30-MAY-11 | 31-MAY-11 | 2 jours | French |
| CATIA V5 -- Drafting Advanced | 05-MAY-11 | 05-MAY-11 | 2 jours | French |
| CATIA-Smartteam Base1 | 03-MAY-11 | 18-MAY-11 | 6 jours | French |
| Schneider: Automate Modicon Premium UNPP2 | 23-MAY-11 | 26-MAY-11 | 4 jours | French |
| Travailler en salle propre | 26-APR-11 | 26-APR-11 | 1 jour | French |

Office software

| | | | | |
|---|-----------|-----------|---------------|-----------|
| CERN EDMS - Introduction | 08-APR-11 | 08-APR-11 | 1 day | English |
| CERN EDMS MTF in practice | 15-APR-11 | 15-APR-11 | 1 dax | English |
| CERN EDMS for Engineers | 11-APR-11 | 11-APR-11 | 1 jour | French |
| Dreamweaver CS3 - Niveau 1 | 04-APR-11 | 05-APR-11 | 2 jours | French |
| EXCEL 2007 - level 1 : ECDL | 07-APR-11 | 08-APR-11 | 2 jours | French |
| Move smoothly to Office 2007 or 2010 | 04-APR-11 | 04-APR-11 | 1 hour | English |
| Migrer en douceur vers Office 2007 ou 2010 | 23-MAY-11 | 23-MAY-11 | 1 heure | French |
| Working with Windows 7 at CERN | 04-APR-11 | 04-APR-11 | 1 hour | English |
| Travailler avec Windows 7 au CERN | 23-MAY-11 | 23-MAY-11 | 1 heure | French |
| Individual Coaching | 21-APR-11 | 21-APR-11 | 1 heure/ hour | Bilingual |
| Individual Coaching | 20-MAY-11 | 20-MAY-11 | 1 heure/ hour | Bilingual |
| PowerPoint 2007 - Level 1: ECDL | 31-Mar-11 | 01-APR-11 | 2 jours | French |
| Project Planning with MS-Project | 02-MAY-11 | 06-MAY-11 | 2 jours | French |
| Sharepoint Collaboration Workspace | 18-APR-11 | 19-APR-11 | 2 days | English |
| Sharepoint Collaboration Workspace | 23-MAY-11 | 24-MAY-11 | 2 jours | French |
| Sharepoint Collaboration Workspace Advanced | 09-MAY-11 | 09-MAY-11 | 1 day | English |
| Sharepoint Designer (Frontpage) - Level 2 | 16-MAY-11 | 17-MAY-11 | 2 jours | French |
| WORD 2007 - level 1 : ECDL | 11-APR-11 | 12-APR-11 | 2 jours | French |

Other courses

| | | | | |
|---|-----------|-----------|-----------|---------|
| Recruiting and Sourcing using LinkedIn Live | 20-MAY-11 | 20-MAY-11 | 3.5 hours | English |
|---|-----------|-----------|-----------|---------|



Technical training

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

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.



Training & Development

CCM - UNDERSTANDING AND WORKING WITH COMPETENCIES

Find out what competencies are, make them come to life by sharing your experience with colleagues, and understand what they represent in our work environment. All staff members are encouraged to attend.

For sessions in March and April, register at:

<https://aislogin.cern.ch:443/aislogin/Login?REFER=https://aismisc.cern.ch/aismisc/f%3Fp%3D119:1>



Technical training

GRAB WINDOWS TRAINING OPPORTUNITIES; CHECK CERN WINDOWS ROADMAP!

CERN Operating Systems and Information Services group (IT-OIS) actively monitors market trends to check how new software products correspond to CERN needs. In the Windows world, Windows 7 has been a big hit, with over 1500 Windows 7 PCs within less than a year since its support was introduced at CERN. No wonder: Windows XP is nearly 10 years old and is steadily approaching the end of its life-cycle. At CERN, support for Windows XP will stop at the end of December 2012.

Compared to Vista, Windows 7 has the same basic hardware requirements, but offers higher performance, so the decision to upgrade is rather straightforward. CERN support for Vista will end in June 2011.

In the world of Microsoft Office, version 2007 offers better integration with the central services than the older version 2003. Progressive upgrade from 2003 to 2007 is planned to finish in September 2011, but users are encouraged to proactively upgrade at their convenience.

Please note that Office 2007 brings an important change in the area of user interface, which is now based on "ribbon" toolbars rather than menus. At least 1GB of RAM is recommended. Microsoft Office 2010, currently available as a choice on Windows 7, keeps the same new user interface paradigm and the same hardware requirements, but adds new functionality, like the conversation-organised mail view in Outlook 2010.

In an effort to make software upgrades easier for the users, IT-OIS group and CERN Technical Training team are organizing a series of IT Technical Training Tutorials. Attendance is free, but registration via EDH is recommended to facilitate organisation. The first two sessions (in English) are scheduled for April 4th.

If you have questions or require assistance with software upgrades, you are welcome to contact CERN Service Desk. We will be happy to talk to you!

More information:

- IT Technical Training Tutorials 2011 (<https://winservices.web.cern.ch/winservices/Help/?kbid=170110>)
- NICE Office 2007 documentation (<https://winservices.web.cern.ch/winservices/Help/?kbid=070195>)
- NICE Office 2010 documentation (<https://winservices.web.cern.ch/winservices/Help/?kbid=090193>)
- Status of Windows 7 at CERN (<https://winservices.web.cern.ch/winservices/Help/?kbid=010301>)
- End of Support Notices for Microsoft desktop software (<https://winservices.web.cern.ch/winservices/Help/?kbid=051005>)

Michał Kwiątek (IT-OIS),
Paweł Grzywaczewski (IT-OIS)



Seminars

MONDAY 28 MARCH

TH JOURNAL CLUB ON STRING THEORY

14:00 - TH Auditorium, Bldg. 4

TBA

D. MARSH / CORNELL UNIVERSITY

TUESDAY 29 MARCH

CERN JOINT EP/PP & EP/PP/LPCC SEMINAR

11:00 - Bldg. 503 - Council Chamber - Room E

Measurement of ttbar forward-backward asymmetry at CDF

D. AMIDEI

TH STRING THEORY SEMINAR

14:00 - TH Auditorium, Bldg. 4

TBA

L. BAULIEU / CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE (CNRS)

WEDNESDAY 30 MARCH

ACADEMIC TRAINING LECTURE

REGULAR PROGRAMME

11:00 - Bldg. 40-S2-A01 - Salle Andersson

Jets at Hadron Colliders (1/3)

G. SALAM

TH THEORETICAL SEMINAR

14:00 - TH Auditorium, Bldg. 4

TBA

B. WEBBER / UNIVERSITY OF CAMBRIDGE

THURSDAY 31 MARCH

COLLIDER CROSS TALK

11:00 - TH Auditorium, Bldg. 4

Measurement of WW production and Higgs boson searches based on h -> WW using leptonic decays

W. B. QUAYLE / UW MADISON, C. ROVELLI / CERN

ACADEMIC TRAINING LECTURE

REGULAR PROGRAMME

11:00 - Bldg. 40-S2-A01 - Salle Andersson

Jets at Hadron Colliders (2/3)

G. SALAM

TH BSM FORUM

14:00 - TH Auditorium, Bldg. 4

TBA

E. SALVIONI

FRIDAY 1 APRIL

HR SEMINAR

8:30 - Globe

INDUCTION PROGRAMME - 1st Part

N. DUMEAX, S. LYNN HOBSON, E. MACARA,
D. SERAFINI / CERN

ACADEMIC TRAINING LECTURE

REGULAR PROGRAMME

11:00 - Bldg. 40-S2-A01 - Salle Andersson

Jets at Hadron Colliders (3/3)

G. SALAM

MONDAY 4 APRIL

IT INFORMATICS TUTORIAL

10:30 - Bldg. 593-R-011

Working with Windows 7 at CERN

J. SUCIK / CERN

ACADEMIC TRAINING LECTURE

REGULAR PROGRAMME

11:00 - Bldg. 222-R-001 - Filtration Plant

Flavour Physics and CP Violation: Past, Present, Future (1/4)

DR. Y. NIR / WEIZMANN INSTITUTE OF SCIENCE,
REHOVOT, ISRAEL

TH JOURNAL CLUB ON STRING THEORY

14:00 - TH Auditorium, Bldg. 4

TBA - TBA

IT INFORMATICS TUTORIAL

15:30 - Bldg. 593-R-011

Move smoothly to Office 2007 or 2010

P. GRZYWACZEWSKI / CERN

TUESDAY 5 APRIL

SPSCSEMINAR

9:00 - Bldg. 222-R-001 - Filtration Plant

101st Meeting of the SPSC

C. VALLEE / VCPPM MARSEILLE

ACADEMIC TRAINING LECTURE

REGULAR PROGRAMME

11:00 - 80-1-001 - Globe 1st Floor

Flavour Physics and CP Violation (2/4)

DR. Y. NIR / WEIZMANN INSTITUTE OF SCIENCE,
REHOVOT, ISRAEL

TUESDAY 5 APRIL

TH STRING THEORY SEMINAR

14:00 - TH Auditorium, Bldg. 4

Holography of non-equilibrium plasmas in external magnetic field

I. KIRSCH / DESY

WEDNESDAY 6 APRIL

ACADEMIC TRAINING LECTURE

REGULAR PROGRAMME

11:00 - Bldg. 222-R-001 - Filtration Plant

Flavour Physics and CP Violation (3/4)

DR. Y. NIR / WEIZMANN INSTITUTE OF SCIENCE,
REHOVOT, ISRAEL

TH THEORETICAL SEMINAR

14:00 - TH Auditorium, Bldg. 4

TBA

C. GROJEAN / CERN-PH-TH

THURSDAY 7 APRIL

ACADEMIC TRAINING LECTURE

REGULAR PROGRAMME

11:00 - Bldg. 222-R-001 - Filtration Plant

Flavour Physics and CP Violation (4/4)

DR. Y. NIR / WEIZMANN INSTITUTE OF SCIENCE,
REHOVOT, ISRAEL

COLLIDER CROSS TALK

11:00 - TH Auditorium, Bldg. 4

TBA

S. FRIXIONE / CERN AND EPFL

A&T SEMINAR

14:15 - Bldg. 30-7-018 - Kjell Johnsen Auditorium

Long Range Beam-Beam Compensation experiments in RHIC

RAMA CALAGA / BNL

FRIDAY 8 APRIL

PARTICLE AND ASTRO-PARTICLE PHYSICS SEMINARS

14:00 - TH Auditorium, Bldg. 4

Top Quark Forward-Backward Asymmetry and Same-Sign Top Quark Pairs

E. BERGER / ARGONNE NATIONAL LABORATORY