



Nos 4 & 5 – 27 January & 3 February 2010

## There is a buzz about working here



The outside area of the CERN cafeteria as seen by the CERNland (<http://www.cern.ch/cernland>) graphic artists. People meet here from all corners of CERN.

CERN is a physics Laboratory but, in order to be at the forefront of fundamental research and leading-edge technology, it needs the skills and expertise of people in a wide variety of different fields, from virtually all branches of engineering to information technology and administration. While the popularity of CERN in the physics community makes it very easy for the Recruitment Office to have a wide spectrum of high quality candidates in this field, it is not always obvious for other categories – such as engineers and technicians – to think of CERN as an appealing place to work. The newly created Recruitment Service in the HR-RPM Group already has some solutions to improve the Lab's attractiveness. "There

is a passion in all people working at CERN. We are not profit makers and we are all very proud of being here", confirms James Purvis, Head of the Recruitment, Programmes and Monitoring Group (HR-RPM, see box). "However, if you look at the jobs and career webpage, it looks very dry and unattractive. We don't sell this passion". The lack of candidates is particularly evident in engineering and computing (see graph) and this is the reason for concentrating the efforts on these fields. "We are not on the radars of young engineering graduates", explains Purvis. "We speak in terms of Fellowship but this word simply doesn't



A word from the DG

### Looking ahead

As I write this, I'm on my way to India for a meeting of the funding agencies for large colliders (FALC), and then on to Korea where I'll be discussing Korea's role in our increasingly globalized field. It's a fitting start to 2010, and to this message, in which I'd like to take a look forward to what we can expect in the year ahead.

Enlargement is certainly an issue we'll be hearing more about this year, with five states that have applied for membership, several countries expressing an interest in associate status and Council due to reach a conclusion on the recommendations of the working group

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## A word from the DG

(Continued from page 1)

### Looking ahead

**on enlargement.** Twelve months from now, CERN will be a different organisation to what it is today. It will have evolved into a form well adapted to carry Europe's particle-physics banner, coordinating Europe's involvement in future projects outside the European region while continuing to welcome physicists from around the world.

The LHC ended 2009 on a high note, having established itself as the world's highest energy particle collider in December. And with preparatory work for running at a collision energy of 7 TeV going to plan, the machine is set to start up again next month. Although papers from LHC experiments have already been accepted for publication, this is where the real physics starts. The details of the 2010 run will be finalised at the Chamonix workshop later this month, but I think we can foresee a reasonable period of 7 TeV collisions starting late February or early March before moving up a gear later in the run and closing the year with a few weeks of heavy-ion running.

While the LHC monopolises the headlines, it's easy to overlook the fact that CERN hosts a wide range of cutting edge fixed-target experiments at the PS, SPS, Isolde and AD, as well as non-accelerator experiments. In 2009, it was not only the LHC that set records: our other accelerators also excelled, delivering a record number of protons on target, which augurs well for this year's fixed-target programme. Looking further ahead, the ideas that were aired at last year's workshops on fixed-target and neutrino physics should start to take shape, helping us to map out a long-term vision for CERN.

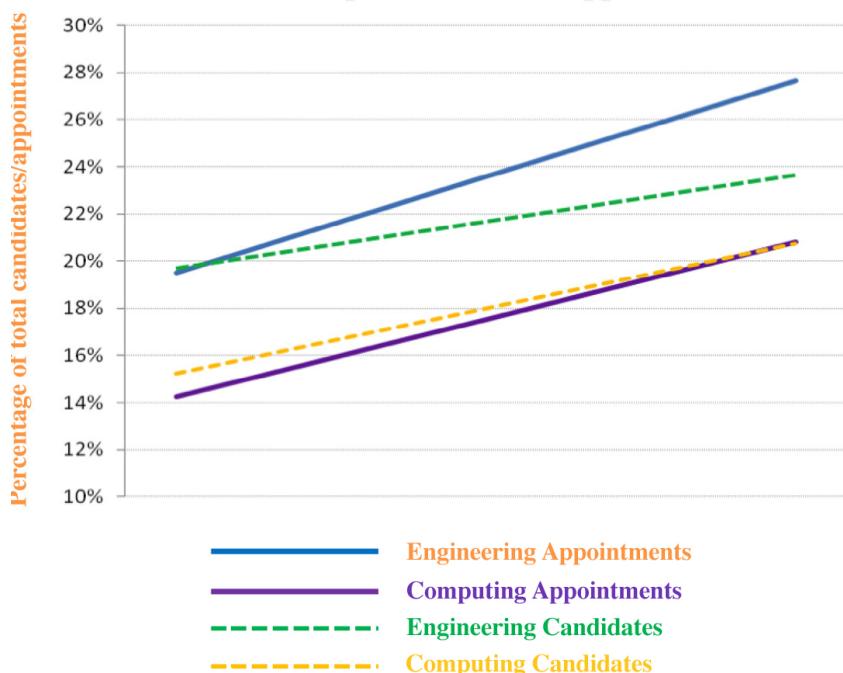
All in all, I think we're set for another memorable year at CERN: one that will mark a watershed for this organisation as the LHC begins routine operation and particle physics worldwide configures itself for a robust and healthy future.

Rolf Heuer

## There is a buzz about working here

(Continued from page 1)

### Fellowship Candidates vs Appointments



exist in their vocabulary". And Lore Taillieu, newly appointed in the centralized recruitment function, adds: "I have been working on staff recruitment for the Technology Department. It has been a struggle to find technicians. If you look at the recruitment graphs for these categories, it's extremely local. Even if you recruit international people, they often live in the local area. We don't reach out far".

Recruitment is becoming a marketing exercise. At CERN, the number of opportunities is growing fast. To encourage engineering applications, for example, the Directorate in collaboration with the HR Department has started the Graduate Engineering Training (GET) programme. "Thanks to GET, we will be able to conceive specific actions to target the required profiles. We will show them that CERN is a great place to come to: one can get fantastic training and work on leading edge technology. It's a springboard for the career", says Purvis.

Actions to improve the image of CERN in the jobs market include a website facelift, eye-catching posters to be sent to universities and an increased presence of CERN at recruitment fairs. "We don't necessarily have to change the working conditions, we just have to share the passion of working here",

concludes Purvis. And this same concept is repeated on the [www.cern.ch/jobs](http://www.cern.ch/jobs) webpage: It's amazing what can happen when great minds come together.

CERN Bulletin

Watch the video at

<http://cdsweb.cern.ch/record/1225351>



### Did you know?

#### The HR-RPM Group

Until December 2009, Staff recruitment was dealt with by the Human Resources Advisors (HRA) in each Department, whereas the student and fellows recruitment was centralized for all the Departments by the HR-RPM Group. As of 2010, recruitment for all the personnel categories (students, fellows, associates, staff) will be gradually centralized for the whole Laboratory by the HR-RPM Group.

Although you know your colleagues working next door, you might be less aware of what happens in Building 54, or 202, or elsewhere. The Bulletin is starting a new series of articles to show who works here, what they do and how. The series starts with an overview of job opportunities at CERN and continues with an interview with Youri Robert (page 3), the person who, among other things, could easily tell you whether or not your building is moving...

Would you like to be featured? Email

[Bulletin-Editors@cern.ch](mailto:Bulletin-Editors@cern.ch)

and we'll come and interview you!

# Down to the nearest centimetre...

The CERN site and its buildings are permanently evolving, just like the people who work there. When you've got a total of 15,000 different premises (see box), you're bound to have a wall being knocked down here and another going

up somewhere else most days. Everything has to be measured, inventoried, put on computer, archived and made available on the Web. And the Laboratory's buildings on the surface are only half the story: let's not forget the underground infrastructures, the tunnels and the plots of land, not to mention the kilometres of optical fibres and electric cables passing through them.

Youri Robert and his team are there to make sure that all this information is always up to date. "Each Department at CERN has a "space manager" responsible for informing us of any change to the premises using the form available on our Web site. We update the drawings accordingly and, where applicable, add the corresponding attribute data to our database, such as the construction type for entire buildings or the purpose for which a room is going to be used in the case of individual premises".

When a change is made to premises, a building or a plot of land, the first task of Youri and his team is to measure the area concerned. "We use a distance metre for this indoors and a tachymeter outdoors. These are very precise devices that allow us to measure angles and distances", he explains. "The angles and distances we measure are

**Do you know who was responsible for determining the exact position of the lines reproducing those of the accelerators that were traced on the floor of the Main Building for the fiftieth anniversary celebrations of the PS? Do you know who is checking that Building 40 doesn't budge an inch during the construction of Building 42? And who would you ask if you wanted to know the exact position of the water pipes in Building x or y? Youri Robert and the team from the Patrimony and Site Information Service (GES-SEM-DOP), of course!**

converted into coordinates. We then enter them in a special CAD software tool so that they can all be digitised."

CERN's surveyors have the very latest state-of-the-art tools at their disposal. "We have just acquired a GPS system that allows us to take measurements to the nearest centimetre, a precision 100 times greater than that of a standard GPS system", Youri enthuses.

All the digitised drawings can be accessed from the Patrimony and Site Information Service Website. "The Website contains two applications", Youri explains. "The NS application gives us a dynamic representation of all CERN's graphic data and networks, while the "Planothèque" application contains the floor plans of all CERN's buildings".

Youri concludes: "Our work is extremely diverse. We can be working in the field one day, doing computer-aided design another and web production the next. This is really important for me. And in an international environment with experts from all over Europe into the bargain. We don't face the same constraints as you sometimes find in the private sector as we are given the tools and the time we need to do our job properly.



Youri Robert at work.

The medium to long-term priority for Youri's team will be to produce a 3D version of the drawings of the Laboratory's different sites. The Canton of Geneva is already in the process of doing this for all its sites and buildings (<http://etat.geneve.ch/sitg/guichet-4254.html>).

CERN Bulletin

Did you know?

The CERN site consists of 213 hectares of fenced land, and over 600 hectares of land are placed at the Organization's disposal by the Host States. The site contains around 600 buildings representing a total of more than 15000 different premises.

A video is available at <http://cdsweb.cern.ch/record/1225351>

## Youri Robert's career to date

Youri graduated with a degree in surveying from the Ecole Supérieure des Géomètres et Topographes (ESGT <http://www.esgt.cnam.fr/fr/index.html>) in France. Towards the end of his studies in 1996, he worked as a Fellow in CERN's "Survey" Group, which is responsible for metrology and, in particular, the alignment of the LHC magnets and detector components. He then spent two years working for the land registry office of Mayotte, an island in the Indian Ocean, and the three years after that working for a large surveying firm in Grenoble. After that he returned to CERN for three years, where he worked on the measurements for the LHC magnets and for the ATLAS experiment before being hired by the Geographical Information System of the Commune of Nyon in nearby Switzerland. He has been head of CERN's Patrimony and Site Information Service since 2008.

Previous Bulletin articles on CERN's surveyors:

<http://cdsweb.cern.ch/record/1207348?ln=fr>  
<http://cdsweb.cern.ch/record/44791?ln=fr>  
<http://cdsweb.cern.ch/record/774559?ln=fr> <http://cdsweb.cern.ch/record/644675?ln=fr> <http://cdsweb.cern.ch/record/45554?ln=fr>

# The LHC enters a new phase

**B**efore the 2009 running period began, all the necessary preparations to run the LHC

at the collision energy of 1.18 TeV per beam had been carried out. The goal of the technical stop, which will end mid-February, is to prepare the machine for running at 3.5 TeV per beam. In order to achieve that, a current as high as 6 kAmps will have to flow into the LHC magnets.

The main work is taking place on the new quench protection system (nQPS) where teams are improving the electrical reliability of the connection between the Instrumentation Feedthrough Systems (IFS) on the magnets and the nQPS equipment. There are around 500 of these connectors for each of the eight sectors in the LHC that need to be repaired. These operations are necessary to ensure that higher currents can be safely handled.

The interventions on the nQPS follow a very strict procedure that ensures an extremely accurate quality control of the repairs: after repairing the electrical connections, specialized teams make a first visual control to check that everything is properly assembled; after that, the Electrical Quality Assurance

**After achieving the world record energy of 1.18 TeV per proton beam last November, the LHC is now preparing for higher energy and luminosity.**

(ELQA) team performs the high voltage tests; finally, the Hardware Commissioning teams power the magnets, initially with low current and finally at 6 kAmps.

Several teams are taking advantage of the technical stop to carry on other technical verifications and efficiency tests, for instance on some vacuum pumping units, the kicker system, the Oxygen Deficiency Hazard detectors, some ventilation components and a few others.

At present, all teams are on schedule: the powering tests have just started in Sectors 8-1 and 1-2; Sectors 2-3, 3-4 and 4-5 will follow shortly. According to the planning Sector 1-2 will be the first sector ready for beam operation by the end of January.

At the same time as the LHC interventions, repairs are going on at CMS on the water cooling system. All work, both in the LHC and in the CMS experiment, is expected to be completed by mid-February.

*CERN Bulletin*

A video is available at

<http://cdsweb.cern.ch/record/1234610>



*The teams are working in the tunnel to improve the electrical reliability of the magnet protection system.*

## You've come a long way!

**T**he number of women working in particle physics has increased greatly since CERN was created. But many people remain unaware of this, outside CERN especially, but also inside.

Pauline Gagnon has had a passion for science from an early age, and always wanted to work in this field. However, given the small number of women actually working in physics towards the end of the 1970s, it was very difficult for a woman to gain acceptance. "Amongst all those men, I always felt a bit of an interloper," she confides. That is why the principal message that she wants to bring across with the 8 March event is: "Despite everything, women have broken down the walls around this exclusively male preserve, and it's important that this should be noted. I also hope that it will energise women, especially those who are isolated in their workplace. That's why I call on all women to volunteer to take over the key positions in the control rooms, in operations and quality assurance, as experts on call, as visit guides and so on, in order to increase our visibility." She adds: "In this way we hope

**To mark the forthcoming International Women's Day, on 8 March, Pauline Gagnon, a physicist working on the ATLAS experiment, has launched a project that will show how far women have come in particle physics in the past 50 years. On that day, women will be invited to take the controls of all of CERN's experiments and accelerators.**

to raise our profile, so as to capture the public's attention, dispel certain myths and encourage more young women to take up professions in science and technology."

This is not the first time Pauline has taken the initiative to bring about change. Along with several colleagues, she set up a women's network for the ATLAS collaboration. "That allowed us to forge links and support each other more easily," she adds. Most recently, a dozen women from ATLAS took part in the "Expanding your horizons" event, at which women scientists conducted workshops for some 250 young women from the region, in the hope of attracting them to a scientific career.

More than anything else, Pauline Gagnon wants as many women as possible to take part, setting an example for other laboratories to follow. "So far the project looks pretty good: the Management is actively supporting it, and about sixty people from all over

CERN have already signed up," she reports. If you want to contribute to organising this event, just sign up to the following mailing list: <https://e-groups.cern.ch/e-groups/Egroup.do?egroupId=190773>. If you have some ideas about getting your department or group involved, don't hesitate to contact Pauline. Men can show their support in the control rooms by giving up their places to women on 8 March.

*Laëtitia Pedroso*

<http://equal-opportunities.web.cern.ch/equal-opportunities/Welcome.php>



*Pauline Gagnon, ATLAS physicist, at work*

# The Colliderscope: a real-time show

The pattern, intensity and duration of the Colliderscope's flashes of light depend on the physical parameters of particles crossing the ATLAS TRT detector. "At the Colliderscope very little happens randomly", explains Troels Petersen, a physicist at NBI and one of the people who conceived it. "Particularly interesting events, such as electrons, are shown by a bright light that remains on the facade for several seconds".

The Niels Bohr Institute has participated in the development of the TRT detector, and this is why the NBI physicist Clive Ellegaard had the idea of involving the artists Morten Skriver and Christian Skeel to develop a work of art in which art and science fuse together. "For an artist, the LHC is one of the greatest and most fantastic symbolic constructions of all time, on a par with the Egyptian pyramids", said Skriver. "At first sight, science and art seem to be two fundamentally different human endeavours. Science tries, with absolute objective precision, to take the world apart in order to understand how

Ninety-six LED lights distributed over the facade of the Niels Bohr Institute (NBI) in Blegdamsvej (Denmark) reproduce the actual signals coming from the Transition Radiation Detector (TRT) in ATLAS. Thanks to the Colliderscope, when a collision occurs below the ground in Geneva, people passing by in Blegdamsvej will be aware of it almost in real-time.

the different parts work together. Art tries to assemble the world in totally subjective and ambiguous expressions. However, both science and art pursue the same goal: they try with intelligence and intuition to come as close as possible to an understanding of the mystery of existence."

When the LHC starts up again in February, the Colliderscope will be able to show what is happening at the TRT with just a few seconds' delay. The Colliderscope is a satellite exhibition of the Esbjerg Art Museum and is currently scheduled to run until 2011. Support for the Colliderscope comes from the Danish Arts Agency, the Velux Foundation and the Niels Bohr Foundation.

[http://colliderscope.nbi.dk/index\\_english.html](http://colliderscope.nbi.dk/index_english.html)

Francesco Poppi



Niels Bohr Institute facade lit up to reflect the latest ATLAS-TRT data.

## How does the Colliderscope work?

Three parameters measured by the TRT control the way the diode lamps are lit up in the Colliderscope: the momentum and charge of the particle, and the quality of the reconstructed tracks it produces. The momentum of the particles issued from the proton-proton collisions controls the curvature of the light pattern on the building's facade, whereas the charge determines the bending direction. The speed at which lights are lit up follows the momentum log. The quality of the track in the TRT controls the initial intensity of the Colliderscope's LED lights: higher intensity means best quality of the track reconstruction and slower fading off means best accuracy of the position of the LED with respect to the measured track.

In addition, secondary particles have a specific light time and some LED lights are lit up simultaneously. This is the case for the electrons: since there are no electrons in the colliding protons, the track of an electron in the TRT signifies that "something interesting" happened that warrants extra scrutiny.

More information, pictures and a video are available at this link:

[http://colliderscope.nbi.dk/index\\_english.html](http://colliderscope.nbi.dk/index_english.html)

# Students in search of research scientists

In 2009, CERN granted 270 students unremunerated traineeships lasting a few days or more. However, many applications could not be satisfied owing to the lack of CERN volunteers to supervise the students.

The hosting of students in an aspect of one of the Organization's fundamental missions, namely education and training. CERN's traineeships offer secondary schoolchildren and university students the opportunity to discover how fascinating science can be and contribute to encouraging young people to choose to study branches of science that have seen a fall-off of applications in recent years. "We in the Human Resources Department have invested great efforts in trying to satisfy more applications for traineeships, but we need the support of members of the personnel to supervise the students," underlines James Purvis, head of HR Department's Recruitment Group.

There are two types of unremunerated traineeships : The School Kids programme designed for schoolchildren seeking demonstration-based courses lasting about a week and the Short-term Students Course for students keen to acquire a few months'

**CERN is a magnet for many young people wanting to discover for themselves what the Laboratory is about through a traineeship. During their traineeships, the students develop an interest in engineering, informatics and also in physics, a discipline where there has been a marked fall-off in university applications. We would therefore encourage you to take part in hosting students.**

professional experience during their university course.

The schoolchildren are in the 13 to 16 age-range and, as Sharon Hobson of the HR Department's Recruitment Service points out, "They are delighted with their stay and some of them want to go on to become research scientists". The course provides an opportunity for them to discover the world of work, an experience which enables them to decide on their future course of studies. However, many applicants don't get the opportunity to cross the threshold of the Laboratory because, as Sharon explains, "Despite the large number of volunteers coming forward, we don't manage to find supervisors for all of them."

HR Department would therefore be delighted to hear from any members of the personnel who would be willing to host budding scientists for from two to ten days. This will mean devoting a few days to supervision. Supervisory activities can also be

shared by several colleagues or services to allow the student to experience various different aspects of CERN's work and to spread the supervision workload. This can easily be arranged by e-mailing HR Department's Recruitment Service ([recruitment.service@cern.ch](mailto:recruitment.service@cern.ch)).

The procedure in the case of university students is different. They must apply for a place on the Short-term Students programme under the Students heading at [www.cern.ch/jobs](http://www.cern.ch/jobs). After they have completed the on-line application form, giving details of their course of studies and skills and the required dates of the traineeship, their applications are recorded in a database which members of the personnel can access at the following address:

[https://ert.cern.ch/browse\\_www/wd\\_pds?p\\_web\\_site\\_id=1](https://ert.cern.ch/browse_www/wd_pds?p_web_site_id=1)

To find a suitable applicant, just click on "STAG Short-term Student / Stagiaire Search" and then conduct your search by discipline and course date.

If you wish to contribute to the Organization's education and training mission, HR Department encourages you to take part in supervising a student within your group.

HR Department

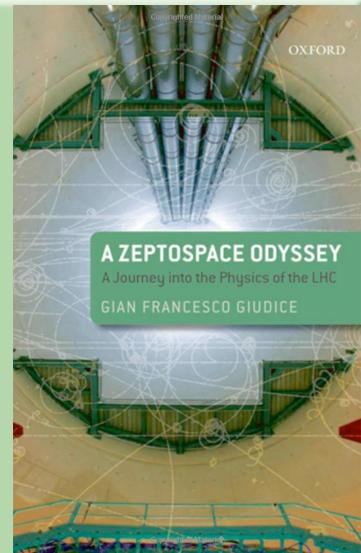
## Literature in Focus

### A Zeptospace Odyssey: A Journey into the Physics of the LHC

By Gian Francesco Giudice (CERN)  
Oxford University Press, 2009

**A**t this very moment the most ambitious scientific experiment of all time is beginning, and yet its precise aims are little understood by the general public. This book aims to provide an everyman's guide for understanding and following the discoveries that will take place within the next few years at the Large Hadron Collider project at CERN. The reader is invited to share an insider's view of the theory of particle physics, and is equipped to appreciate the scale of the intellectual revolution that is about to take place. The technological innovations required to

build the LHC are among the most astonishing aspects of this scientific adventure, and they too are described here as part of the LHC story. The book culminates with an outline of the scientific aims and expectations at the LHC. Does the mysterious Higgs boson exist? Does space hide supersymmetry or extend into extra dimensions? How can colliding protons at the LHC unlock the secrets of the origin of our Universe? These questions are all framed and then addressed by an expert in the field. While making no compromises in accuracy, this highly technical material is presented in a



friendly, accessible style. The book's aim is not just to inform, but to give the reader the physicist's sense of awe and excitement, as we stand on the brink of a new era in understanding the world in which we all live.

**Wednesday, 27 January, 4.00 p.m.  
In the Library (bldg. 52 1-052)  
Tea and coffee will be served**

# The coffee-time challenge

The challenge to identify the LEP events displayed on coffee tables in Restaurant 1 (Bulletin 02-03/2010) sparked interest among readers who do not have the opportunity to see them. We have therefore decided to open the challenge to these readers by displaying the events on the web.

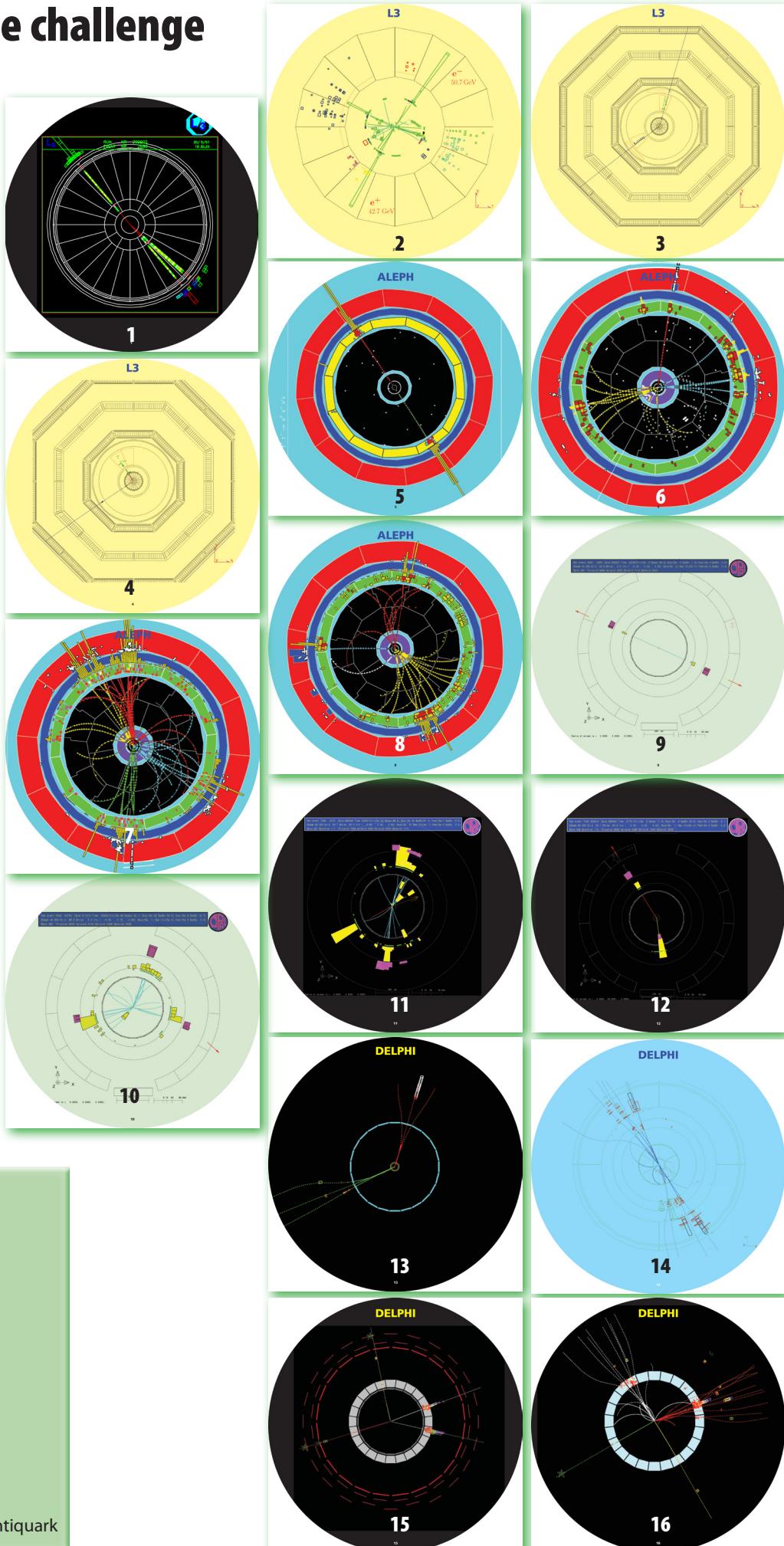
We are also extending the deadline accordingly to 2 March.

There are 16 events in total (in two areas), four from each of the four LEP experiments, and they include examples of different particle decays observed at LEP during its 11 years of operation. The list below indicates the decay channels represented.

We are offering a prize of the ATLAS pop-up book, Voyage to the Heart of Matter, for the correct identification of all 16 events. Entries should indicate the table number corresponding to each of the decays listed.

There will be a draw on 3 March to pick the winner from entries that correctly identify all 16 events.

Please email your answers to [Bulletin-Editors@cern.ch](mailto:Bulletin-Editors@cern.ch).



- Z → e<sup>+</sup>e<sup>-</sup>
- Z → μ<sup>+</sup>μ<sup>-</sup>
- Z → τ<sup>+</sup>τ<sup>-</sup>
- Z → quark-antiquark
- Z → quark-antiquark-gluon
- ZZ → e<sup>+</sup>e<sup>-</sup> μ<sup>+</sup>μ<sup>-</sup>
- ZZ → quark-antiquark e<sup>+</sup>e<sup>-</sup>
- ZZ → quark-antiquark μ<sup>+</sup>μ<sup>-</sup>
- WW → eμμ
- WW → μμμ
- WW → τττ
- W → τμμ
- WW → quark-antiquark μμ
- WW → quark-antiquark eμ
- WW → quark-antiquark ττ
- WW → quark-antiquark quark-antiquark

# Juan Antonio Rubio Rodriguez (1944 – 2010)

**I**t was with deep sorrow and great sadness that we learnt that Juan Antonio Rubio Rodriguez has passed away on 16th January 2010.

Juan Antonio was born in Madrid on 4th June 1944, and received his Ph. D. in Physics in 1971 from "Universidad Complutense de Madrid". He was a CERN Fellow (1968 – 1971) and subsequently worked at JEN (currently CIEMAT) as researcher (1971 – 1976). He was leader of the HEP group (1977 – 1981), leader of the Nuclear and Particle Physics Division (1981 – 1983), Director for Basic Research (1983 – 1987) and Scientific Director (1984 – 1987).



He was instrumental in the Spanish accession to CERN approved by the Spanish Government at the end of 1982 and ratified by the Spanish Parliament in June 1983.

He served at CERN (1987 – 2004) as Group Leader (1987 – 1990), Scientific Advisor to the Director-General (1990 – 2000) and as Division Leader of the Education and Technology Transfer (ETT) Division (2001 – 2004).



Throughout this period he was also Coordinator for Latin America and a protagonist in the elaboration of the HELEN network which was instrumental in re-establishing ties with the Latin American HEP community and attracting to Europe and CERN the new generation of experimental physicists.

In Summer 2004 he was appointed by the Spanish Ministry of Education and Science as the Director-General of the Research Centre for Energy, Environment and Technology (CIEMAT)

His research work in experimental particle physics was carried out, initially,

in the 80 cm and 2 meter Bubble Chambers and, later using the European Hybrid Spectrometer (EHS), the Mark J and L3 experiments. Juan Antonio was particularly interested in technology transfer of HEP developments and education, communication and outreach. He is the author or co-author of more than 360 scientific publications and 40 articles on outreach and popularisation of physics.

At CIEMAT he was the pioneer of an in-depth re-organization decentralizing the institution and promoting projects for the production of alternative energies.

In 2009 he was awarded the "Rey Jaime I" New Technologies Prize in recognition of his development work and pioneering research in relation with renewable energies such as thermo-solar, accelerator-controlled fission, fusion by magnetic confinement and recycling of nuclear waste.

In Juan Antonio we lose a dynamic member of our community well known beyond CERN, a tireless person capable of undertaking responsibilities and projects at unbelievable levels and, over all, an excellent friend.

*His friends and colleagues*



Juan Antonio Rubio (fifth from the right), Director-General of CIEMAT (Madrid) in a group photo of the Spanish LHC commissioning team in 2008.

# Homage to Professor Hans-Åke Gustafsson

**I**t was with deep sadness that we learned of the death of Professor Hans-Åke Gustafsson, an internationally recognized scientist, beloved colleague and friend. He passed away on Wednesday January 13th at the Lund University Hospital, surrounded by his loved ones, after a short battle against cancer. This is a great loss for all of us in ALICE and the whole heavy ion community.

Hans-Åke, Professor at Lund University, was one of the pioneers of heavy ion physics with relativistic beams since its very beginning. He started his research at CERN, as a fellow at the ISOLDE ion beam facility, and immediately after, in the early 1980s, joined the Plastic Ball collaboration at the Bevalac. One of the seminal papers of the field on the discovery of collective flow in relativistic nuclear collisions, co-authored by Hans-Åke, Hans Gutbrod and col-



leagues, stems from this period. From that point on he was always at the forefront of research with relativistic nuclear beams, being for three decades one of the reference figures in the field, highly respected for his rigorous judgment and commitment to research. He was one of the key players in the heavy ion program at the SPS with the WA80 and WA98 experiments, at the Brookhaven RHIC with PHENIX, and of course at CERN with ALICE, which he joined at the very beginning and to which he greatly contributed in shaping. Together with his team at the University of Lund, Hans-Åke played a major role in the design, construction and commissioning of the ALICE Time Projection Chamber. His enthusiasm and knowledge accompanied ALICE through the years, providing guidance and motivation to young researchers and momentum to the whole collaboration. For many years, he served on the ALICE management, as Deputy Spokesperson and

Chair of the experiment's Editorial Board and Conference Committee. Hans-Åke played an essential role in the first ALICE physics publication, actively helping until the very last moment while already under cancer treatment. Through his experimental work, his contribution to the organization of innumerable conferences and workshops, and his participation to research administration at the international level, he was one of the fundamental individuals in shaping this entire field of Physics.

Besides his many scientific achievements, we would like to recall his many human qualities. Everyone who knew Hans-Åke speaks of his unfailing good humor and courteous smile. He always sought a more profound human contact and used every occasion to help his colleagues, especially the younger fellows. The loss is there, tangible and real within everyone, because we are deprived of the joy of his company, but the many fond memories we have of him represent an invaluable and indelible inheritance he has left all of us: colleagues, friends or simple acquaintances alike.

*The ALICE Collaboration*



# Homage to Jean Roche

**I**t is with deep sadness that we learnt that Jean Roche has died.

Jean was one of those quietly efficient and conscientious pillars of our community who beaver away unobtrusively for decades and make such a contribution to building CERN.

An expert in thermal engineering, he left his mark on many buildings on the Meyrin and Prévessin sites.

At the time of the LEP project at the beginning of the 1980s he was in charge of defining the principles of the ventilation systems for the new accelerator. Through his design studies and the calls for tenders that he



launched, he developed these high-performance state-of-the-art installations which not only made LEP's successes possible but also served as benchmarks for the fundamental principles underpinning the design of the LHC ventilation system.

Jean always liked to surround himself with young people and during the years of his stewardship the design office was a splendid training ground. Despite his responsibilities, Jean was always keen to share his expertise with others and to transmit the basic tenets of his know-how.

Mediocrity and a lack of respect for other people were alien to him, receptive as he was to many disciplines and largely self-

taught, and it was a genuine pleasure to work alongside him.

Your sudden death after that of your wife has greatly saddened us.

We say farewell to you, Jean. Even though death spares no man, those whom we love never really leave us completely.

Your friends and former colleagues express their deep condolences to your children Gilles and Hélène, to your grandchildren and to the whole family.

*His friends and former colleagues*



## STAFF RULES AND REGULATIONS – MODIFICATION NO. 4 TO THE 11TH EDITION

Please note that the following pages of the Staff Rules and Regulations have been modified as of 1 January 2010:

- Monthly basic salaries of staff members (Annex R A 5): amendment of page 71.
- Stipends of fellows (Annex R A 6): amendment of page 72.

The complete electronic version of the Staff Rules and Regulations is accessible on the HR Department intranet site.

*Human Resources Department  
Tel. 78003*

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.

## STAFF RULES AND REGULATIONS – MODIFICATION NO. 3 TO THE 11TH EDITION

Please note that the following modifications to the Staff Rules and Regulations came into force in 2009 and have been posted on the HR Department site:

- Chapter II, Conditions of Employment and Association, Section 1 (Employment and association): amendment of page 14 – with effect from 1 August 2009.
- Chapter II, Conditions of Employment and Association, Section 5 (Termination of contract): amendment of pages 28 and 29 - with effect from 1 August 2009.
- Family allowances (Annex R A 3): amendment of page 68 - with effect from 1 January 2009.
- Education fees (Annex R A 4): amendment of page 69 - with effect from 1 January 2009.
- Monthly basic salaries of staff members (Annex R A 5): amendment of page 71 - with effect from 1 January 2009.
- Stipends of fellows (Annex R A 6): amendment of page 72 - with effect from 1 January 2009.
- Subsistence allowances of associates and students (Annex R A 7): amendment of page 73 - with effect from 1 January 2009.
- Indemnities and grants payable to staff members on termination of contract (Annex R A 11): amendment of page 77 - with effect from 1 August 2009.

The complete electronic version of the Staff Rules and Regulations is accessible on the HR Department intranet site.

*Human Resources Department  
Tel. 78003*

## ADJUSTMENTS TO FINANCIAL AND SOCIAL BENEFITS

In accordance with recommendations made by the Finance Committee in November 2009 and decisions taken by the Council in December 2009, certain financial benefits have been adjusted with effect from 1 January 2010.

1. An increase of 1.6% has been applied to the scale of basic salaries and to stipends paid to Fellows (Annexes R A 5 and R A 6 of the Staff Rules and Regulations, respectively). The adjusted amounts are available from the HR Department intranet site or from departmental secretariats.
2. As a result of the evolution of the Geneva consumer price index, no adjustments have been made to the subsistence allowances of Paid Associates and Students (Annex R A 7 of the Staff Rules and Regulations).
3. The following social benefits also remain unchanged :
  - Family, child and infant allowances (Annex R A 3 of the Staff Rules and Regulations).
  - Payment ceilings of education fees (Annex R A 4 of the Staff Rules and Regulations).

*Human Resources Department  
Tel. 70674  
(Classification and Remuneration Service)*



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.

## CHIS - ANNUAL ADJUSTMENT OF BENEFITS AND FIXED CONTRIBUTIONS

As foreseen by the CHIS Rules, an annual adjustment is applied to :

- ceilings for certain benefits
- contributions for voluntary membership as well as supplementary contributions for spouses/partners

### 1. Benefits

The ceilings have been maintained at the level of 2009. The full list of benefits is available on the CHIS Website.

### 2. Voluntary contributions

The full contribution based on reference salary II is now 975 CHF per month.

This fixed amount contribution is applied to voluntary affiliated users and associates with normal coverage.

Half of this rate (487 CHF) is applied to apprentices as well as to voluntary affiliated users and associates with reduced coverage.

A rate of 390 CHF is applied to children maintaining their insurance cover on a voluntary and temporarily basis.

### 3. Supplementary contributions

From 1st January 2010 the supplementary contribution for the spouse or registered partner of a staff member, fellow or pensioner is as follows for the different monthly income brackets:

- **more than 2'500 CHF and up to 4'250 CHF:** 134.-
- **more than 4'250 CHF and up to 7'500 CHF:** 234.-
- **more than 7'500 CHF and up to 10'000 CHF:** 369.-
- **more than 10'000 CHF:** 487.-

For more information:

<https://hr-services.web.cern.ch/hr-services/Ben/chis/contribsupp.asp>

Human Resources Department  
Tel. 74125

## VALIDITY OF YOUR SAFETY AWARENESS TRAINING



AIS is setting up an automatic e-mail reminder system for safety training. You are invited to forward this message to everyone concerned.

### Reminder: Please check the validity of your Safety courses

Since April 2009 the compulsory basic Safety awareness courses (levels 1, 2 and 3) have been accessible on a "self-service" basis on the web (see CERN Bulletin No. 13-14/2009). Participants are required to pass a test at the end of each course. The test is valid for 3 years so courses must be repeated on a regular basis.

A system of automatic e-mail reminders already exists for level 4 courses on SIR and will be extended to the other levels shortly. The number of levels you are required to complete depends on your professional category.

Activity	Personnel concerned	Level 1	Level 2	Level 3	Level 4
		Basic safety	Specific safety	Specific safety	Controlled access areas
Tertiary activities	Administrative (office work, etc.)	X	X	-	-
'On site' activities	All professional categories other than the administrative category: manual work, work in hazardous areas, etc.	X	X	X	-
Activities underground	All professional categories	X	X	X	X

You are kindly requested to follow the level 1, 2 and 3 courses on the SIR system if you last completed them (in a class or by video in Building 55) more than 3 years ago.

You can follow the courses and complete the corresponding tests from any computer on or off the CERN site. If you do not have a CERN account, you can access the courses at the kiosks on the ground floor of Building 55 from 7.30 a.m. to 4.00 p.m.

V. Bandier  
Safety Course Engineer  
DGS/GS/PT



## Take note

### EMAIL TO SMS SERVICE CHANGE

If you have a CERN e-mail account, you have probably already used one of the popular services that CERN's IT Department offers to CERN users: the mail2SMS service.

It allows any CERN e-mail account holder to send short messages (SMS) free of charge to CERN GSM phone numbers.

Further to recent negotiations with our GSM operator, this service has been extended. It is now possible to send short messages free of charge to any Swiss mobile number.

This extension of service aims at replacing the similar service that was made available by SWITCH<sup>(1)</sup> to CERN users (address: mobilenumber@sms.switch.ch). Because of repeated abuse, this service will be definitively stopped for CERN users on 15th January 2010.

Please keep in mind that CERN's e-mail to SMS service still has some restrictions: messages can only be sent from CERN mail accounts, and not from personal ones, such as GMAIL, MSN, Yahoo; the maximum length of the message is 160 characters (standard maximum SMS length); and only Swiss mobile numbers can be reached,

You can find complete information about the new features of the service on the website:

<http://sms.web.cern.ch/sms/>

For any question, call the Telecom Lab on 72480 or send an e-mail to [Labo.Telcom@cern.ch](mailto:Labo.Telcom@cern.ch)

CS Group - IT Department

<sup>(1)</sup> SWITCH: is the Swiss national organization that aims at interconnecting Swiss academic networks.



### APPEAL FOR WITNESSES

On Monday, 11 January 2010 between 7.30 a.m. and 8 a.m., in front of the Reception Building 33, my car was damaged by a large vehicle (see photographs) but the driver failed to leave any indication of his or her identity.

If you have any information about this incident, please contact me on 74421.

Claude Lamboley



## Safety Training Course

### NOISE TRAINING - 'BRUIT - CONNAÎTRE LES RISQUES LIÉS AU BRUIT'

Two sessions of the *Bruit - Connaitre les risques liés au bruit* course will be held on 4 February 2010.

This course is intended for members of the personnel who are exposed to noise on a regular basis or occasionally, and, as a priority to those persons who wear hearing protection.

To enrol, please create a training request on EDH

<https://edh.cern.ch/Document/Personnel/TRN?new=YES&course=077L00>

or contact I.Cusato ([isabelle.cusato@cern.ch](mailto:isabelle.cusato@cern.ch))

DGS Unit

**LES TROUBLES LIÉS AU BRUIT**

Le bruit est la cause de nombreux problèmes de santé.

- Vertiges, perte d'équilibre
- Troubles de la tension
- Troubles respiratoires
- Réactions digestives
- Troubles sexuels

**LE BRUIT EST UNE NUISANCE MAJEURE DANS DE NOMBREUSES ACTIVITÉS**

Tous ces effets apportent des gênes considérables dans votre vie professionnelle, familiale et sociale.

NOUS VOUS RAPPELONS QUE LA Perte D'AUDITION EST IRRÉVERSIBLE.

**PORTEZ VOS PROTECTIONS AUDITIVES 100% DU TEMPS D'EXPOSITION**

Nous espérons que ce message ne tombera pas dans l'oreille d'un sourd



## 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

Agile Project Management with Scrum	11-FEB-10	12-FEB-10	2 days	English
C++ Part 1 - Hands-On Introduction	17-Mar-10	19-Mar-10	3 days	English
CERN openlab/Intel Computer Architecture and Performance Tuning Workshop	09-FEB-10	10-FEB-10	2 days	English
Developing secure software	22-Mar-10	22-Mar-10	0.5 day	English
Emacs - way beyond Text Editing	26-Mar-10	26-Mar-10	1 day	English
Introduction to Databases and Database Design	11-Mar-10	12-Mar-10	2 days	English
JAVA 2 Enterprise Edition - Part 2: Enterprise JavaBeans	22-Mar-10	24-Mar-10	3 days	English
JCOP - Finite State Machines in the JCOP Framework	9-Mar-10	11-Mar-10	3 days	English
JCOP - Joint PVSS-JCOP Framework	22-FEB-10	26-FEB-10	5 days	English
Object-Oriented Analysis and Design using UML	23-Mar-10	25-Mar-10	3 days	English
Oracle - SQL	22-Mar-10	24-Mar-10	3 days	English
Python - Hands-on Introduction	29-Mar-10	31-Mar-10	3 days	English
Secure coding for Java	12-FEB-10	12-FEB-10	1 day	English
Secure coding for Perl	10-FEB-10	10-FEB-10	0.5 day	English
Secure coding for Python	10-FEB-10	10-FEB-10	0.5 day	English
Secure coding for Web Applications and Web Services	10-FEB-10	10-FEB-10	1 day	English
Secure coding in C/C++	08-FEB-10	09-FEB-10	2 days	English

### Mechanical design

ANSYS - Introduction to Classical ANSYS	23-FEB-10	26-FEB-10	4 days	English
Industrial Ventilation	09-FEB-10	10-FEB-10	2 jours	French
Vacuum for accelerators, introductory course	15-Mar-10	19-Mar-10	2.5 days	English

### Office software

ACCESS 2007 - Level 1 : ECDL	22-Mar-10	23-Mar-10	2 jours	French
CERN EDMS for Local Administrators	9-Mar-10	10-Mar-10	2 jours	French
CERN EDMS MTF in practice	23-FEB-10	23-FEB-10	1 jour	French
EXCEL 2007 - level 1 : ECDL	04-FEB-10	05-FEB-10	2 jours	French
EXCEL 2007 - Level 2: ECDL	18-Mar-10	19-Mar-10	2 jours	French
EXCEL 2007 (Short Course I) - HowTo... Work with formulae, Link cells, worksheets and workbooks	25-Jan-10	25-Jan-10	0.5	Bilingual
EXCEL 2007 (Short Course II) - HowTo... Format your worksheet for printing	25-Jan-10	25-Jan-10	0.5	Bilingual
EXCEL 2007 (Short Course III) - HowTo... Pivot tables	26-Jan-10	26-Jan-10	0.5	Bilingual
Focus on ...Excel	2-Mar-10	2-Mar-10	2 hours	Bilingual
Focus on... Sharepoint Collaboration Workspace	1-Mar-10	1-Mar-10	3 hours	Bilingual
Novelties Office 2007	28-Jan-10	28-Jan-10	1 jour	French
Novelties Office 2007: EXCEL 2007	29-Jan-10	29-Jan-10	1 jour	French
Novelties Office 2007: POWERPOINT 2007	11-FEB-10	11-FEB-10	1 jour	French
Novelties Office 2007: WORD 2007	08-FEB-10	08-FEB-10	1 jour	French
Office software individual coaching	26-Jan-10	26-Jan-10	1 hour	Bilingual
Office software individual coaching	1-Mar-10	1-Mar-10	1 hour	Bilingual
Office software individual coaching	09-FEB-10	09-FEB-10	1 hour	Bilingual
Powerpoint 2007 - Level 2	8-Mar-10	8-Mar-10	2 jours	Bilingual
Secure e-mail and Web browsing	8-Mar-10	8-Mar-10	1.5	English
Sharepoint Collaboration Workspace	11-Mar-10	12-Mar-10	2 jours	French





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

Sharepoint Collaboration Workspace Advanced	15-Mar-10	15-Mar-10	0.5 jour	French
Sharepoint Designer (Frontpage) - Level 1	25-Mar-10	26-Mar-10	2 jours	French
Sharepoint Designer (Frontpage) - Level 2	01-FEB-10	02-FEB-10	2 jours	French

#### Electronic Design

LabVIEW Basic I with RADE introduction / LabVIEW Core I	15-Mar-10	17-Mar-10	3 days	English
LabVIEW Basics 2 / LabVIEW Core II	18-Mar-10	19-Mar-10	2 days	English
LabVIEW Data Acquisition and Signal Conditioning Course	10-Mar-10	12-Mar-10	3 jours	French
LabVIEW Real-Time / LabVIEW Real-Time I	08-FEB-10	10-FEB-10	3 days	English

#### Special course

AXEL: Introduction to Particle Accelerators	01-FEB-10	05-FEB-10	5 days	English
Designing effective websites	16-Mar-10	17-Mar-10	2 days	English

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



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TECHNICAL TRAINING  
technical.training@cern.ch

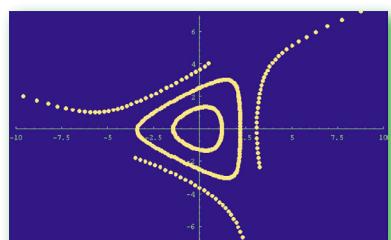
## TECHNICAL TRAINING: AXEL-2010 - INTRODUCTION TO PARTICLE ACCELERATORS

#### CERN Technical Training 2010: Learning for the LHC!

AXEL-2010 is a course series on particle accelerators, given at CERN within the framework of the 2010 Technical Training Program. Known in the past as the PS Complex Operation Course (or the 'PS Shutdown Course'), the general accelerator physics module is organized since 2003 as a joint venture between the BE department and Technical Training, and is open to a wider CERN community.

The AXEL-2010 course series is designed for technicians who are operating an accelerator, or whose work is closely linked to accelerators, but it is open to technicians, engineers, and physicists interested in this field. The course does not require any prior knowledge on accelerators.

However, some basic knowledge on trigonometry, matrices and differential equations, and some basic notions of magnetism would be an advantage.



The course series will be composed of 10 one-hour lectures (mornings and afternoons) from the 1st – 5th of February 2010, and given in English with questions and answers also possible in French. The lecturer is Rende Steerenberg, engineer and supervisor in the BE-OP group. The program will cover: Basic Mathematics; Transverse Optics; Lattice calculations; Resonances; Longitudinal Motion; Leptons; Transfer Lines, Injection and Ejection; Longitudinal and Transverse Beam Instabilities.

This course series is free of charge, but registration is required: participation to all lectures is encouraged, to allow people to gain maximum benefit from the course; registered participants will be invited, and attendance will be recorded in the personal training records. If you are interested in AXEL-2010, please discuss with your supervisor and/or your Departmental Training Officer. Online registration is available via the training catalogue and the detailed program is available on the AXEL-2010 web page, accessible from

<http://www.cern.ch/TechnicalTraining/>

Organizers: Rende STEERENBERG / BE-OP / 79086, Marie-Laure LECOQ / HR-DI / 74924



## Seminars



### MONDAY 25 JANUARY

CERN WINTER SCHOOL ON SUPERGRAVITY,  
STRINGS, AND GAUGE THEORY 2010

8:00 - Main Auditorium, Bldg. 500

### TUESDAY 26 JANUARY

TH STRING THEORY SEMINAR

14:00 - TH Auditorium, Bldg. 4

**Date blocked due to Winter School**

### WEDNESDAY 27 JANUARY

TH COSMO COFFEE

11:00 - Bldg. 1-1-025

**Update on the excited dark matter explanation of 511 keV galactic gamma rays**

J. CLINE / MCGILL

### THURSDAY 28 JANUARY

TH BSM FORUM

14:00 - Bldg. 1-1-025

**Hidden Higgs decaying to lepton jets**

A. FALKOWSKI

### FRIDAY 29 JANUARY

TH INFORMAL LATTICE MEETING

10:30 - TH Auditorium, Bldg. 4

**Renormalization of minimally doubled fermions**

S. CAPITANI / INSTITUT FUER KERNPHYSIK - UNIVERSITAET MAINZ

CERN COMPUTING COLLOQUIUM

14:00 - IT Auditorium, Bldg. 31-3-004

**THE ROLE OF COMPUTING IN CLIMATE SCIENCE - and why it is time to take a quantum leap forward!**

B. BISHOP / ICES FOUNDATION GENEVA

PARTICLE AND ASTRO-PARTICLE PHYSICS SEMINARS

14:00 - TH Auditorium, Bldg. 4

**Description of soft diffraction data in the framework of Gribov's Reggeon calculus**

M. POGHOSYAN

### MONDAY 1 FEBRUARY

TH JOURNAL CLUB ON STRING THEORY

14:00 - Bldg. 1-1-025

**TBA**

T. CHATZISTAVRAKIDIS

### TUESDAY 2 FEBRUARY

TH STRING THEORY SEMINAR

14:00 - TH Auditorium, Bldg. 4

**TBA**

S. MONNIER / RUTGERS UNIV.

### THURSDAY 4 FEBRUARY

TH BSM FORUM

14:00 - Bldg. 1-1-025

**Hidden Valley Showers**

P. SKANDS

### FRIDAY 5 FEBRUARY

PARTICLE AND ASTRO-PARTICLE PHYSICS SEMINARS

14:00 - TH Auditorium, Bldg. 4

**Monopoles, Anomalies, and Electroweak Symmetry Breaking**

J. TERNING / UC DAVIS



## Technical training



### NEW OFFICE SOFTWARE COURSE FORMAT

Always interested to anticipate your training needs, the Technical Training service is pleased to propose two new Office Software course formats :

- "Focus on...": On a monthly basis we will propose a theme such as "Sharepoint Collaboration Workspace" or "Word 2007" or "charts" etc. You will have to send us in advance your questions regarding the proposed topic and register for the course through our Training Catalogue. During the session, our trainer will answer all the questions received and participants will increase their knowledge thanks to the solutions discussed for everyone. The course will last two hours, from 09h00 to 11h00 - with open questions on the proposed topic at the end.
- "Office software Individual coaching": If one or several particular topics cause you sleepless nights, you can get the help of our trainer who will come to your workplace for a multiple of 1-hour slots . All fields in which our trainer can help are detailed in the course description in our training catalogue (Microsoft Office software, Adobe applications, i-applications etc.)

Please discover these new courses in our catalogue!

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

