

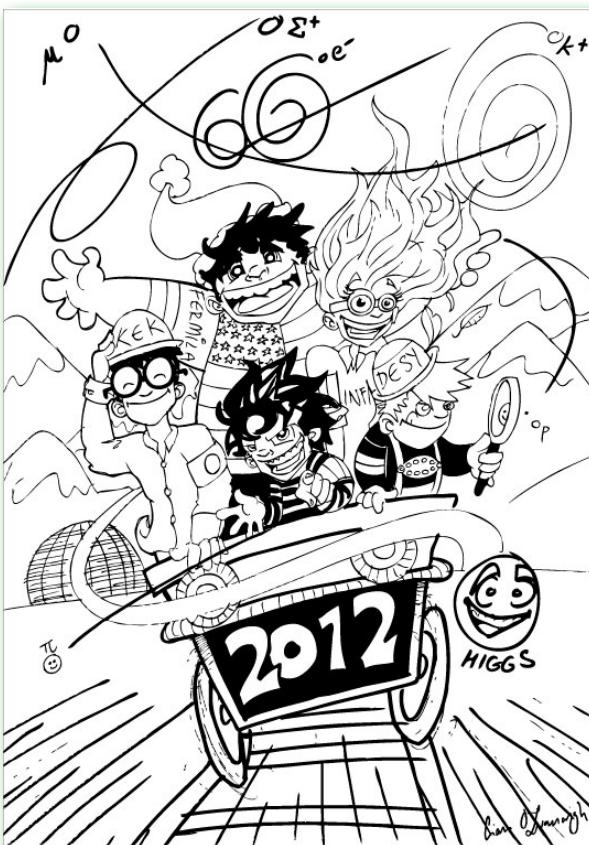
# CERN Bulletin



Nos 51-52 & 01-02 -03 – 21 December 2011 & 11-18 January 2012

## Happy Holidays!

This year, the CERN Bulletin is marking the Christmas season of goodwill and good neighbourliness by knocking on the doors of some of our neighbours in the particle physics community. Join us as we go beyond CERN on a short tour of this very 'particular' world of research, which will take us from France to Japan, via Germany, Italy and the United States.



In their avid search for new discoveries and advances, particle physicists are promising us an exciting year 2012, rich in acceleration, collisions and other major developments.



Enjoy this issue of the Bulletin!  
And, above all: Season's Greetings!

The Bulletin Team



### Ending the year with a cliffhanger

A couple of years ago 'LHC' made a list of the top ten words of the year. This year, it should be the turn of 'sigma' to feature on such a list. It's been a year in which the importance of statistics in particle physics has really come to the fore, along with the caution and rigour necessary in statistics-based analyses.

In particle physics, the significance of an observation is measured in terms of standard deviations - sigma for short. The standard deviation is a measure of how likely it is that an observation is due to chance rather

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#### Published by:

The European Organization for Nuclear Research - CERN  
1211 Geneva 23, Switzerland - Tel. + 41 22 767 35 86

Printed by: CERN Printshop

© 2010 CERN - ISSN: Printed version: 2077-950X  
Electronic version: 2077-9518





## A word from the DG

(Continued from page 1)

### Ending the year with a cliffhanger

than being something new. Two sigma effects come and go roughly as often as an unloaded die will come up with two sixes in a row. A three-sigma effect corresponds to a few parts per thousand chance that the observation is a statistical fluke, and is generally accepted as the point at which an observation becomes intriguing. A discovery, however, requires a five-sigma effect, for which the chance of a statistical fluke is less than one in a million.

This week, in open seminars from ATLAS and CMS, we've seen a number of relatively low significance effects for a possible Standard Model Higgs boson, and the particle physics world is taking them very seriously. What's interesting is that there are multiple measurements coming from two independent experiments, all of which point to the same conclusion: possible evidence for a Standard Model Higgs boson with a mass in the region of 124-126 GeV. It's far too early to say that ATLAS and CMS have discovered the Higgs boson, but the coincidence of these measurements is certainly raising eyebrows.

The Higgs boson, if it exists, is relatively short-lived and can decay in many different ways. Discovery relies on observing the decay products rather than the Higgs itself. Both ATLAS and CMS have analysed several decay channels, and both experiments see small excesses in their data in two separate decay channels and at the same energy. More data will be needed to turn these excesses into a discovery, or to definitively rule out the existence of a Standard Model Higgs boson, so we can't expect any announcement on that front until next summer at the earliest. Nevertheless, it's safe to say that both experiments' analyses over the coming months will be focusing on this mass, and that whatever the weather, next year's winter conferences will be the hot ticket for particle physicists.

Rolf Heuer

# LHC Report: No beams but still busy

**T**he Engineering Department is planning and coordinating the maintenance and repair activities for the whole accelerator complex. The list of planned interventions is truly impressive! There is a lot of work that involves the essential technical infrastructure systems (electricity, cooling, ventilation). Cryogenics have established a full programme aimed at maintaining and improving their already good level of availability. Other systems undergoing maintenance include: vacuum, power converters, RF, beam instrumentation, safety, collimation, beam dump, and injection.

The survey team will be targeting certain less stable areas of the ring. Measures to

**The LHC finished with beams for 2011 on Wednesday 7 December after a pretty good year of operation. The cryogenics team has emptied the magnets of helium for the winter technical stop and a full maintenance programme has started. The LHC is running long operational years at present with only a few short technical stops during operation with beam. This leaves very little time for much-needed maintenance and upgrades. Thus, the hardware teams involved have to take full advantage of the time available during the winter stop.**

mitigate the effects of radiation on electronics in and around the tunnel include the installation of additional shielding in points 1 and 5, as well as the relocation of radiation-sensitive electronics to less exposed areas.

All of this work is essential for the LHC to continue its impressive progress come next March, when the beams will start up again.

*Mike Lamont for the LHC Team*

LHC Page1	Fill: 2354	E: 0 Z GeV	16-12-2011 12:12:34
<b>SHUTDOWN: NO BEAM</b>			
Comments 07-12-2011 18:00:39 :	*** END OF 2011 RUN ***  Thank you all for this brilliant and exciting year. We look forward to another unforgettable year 2012.  *** Start of Xmas Technical Stop ***	BIS status and SMP flags	B1 B2
		Link Status of Beam Permits Global Beam Permit Setup Beam Beam Presence Moveable Devices Allowed In Stable Beams	false false false false true true false false false false false false
AFS: Pilot_2011.IONS		PM Status B1 ENABLED	PM Status B2 ENABLED

# Spin zero

We live in a science-dominated age, where everyone has to make science-based decisions on a daily basis. Yet at the same time, apathy towards science has been growing while pseudo-science gains ground. For that reason, it's incumbent upon scientists to push science further up the popular agenda. The fact that the LHC has got the 'x-factor', as one Tuesday newspaper story put it, gives us a great opportunity to achieve that goal.

The media coverage from the Higgs update seminar was vast and largely accurate, speaking of the scientific process and hints of Higgs that need more data to confirm or refute. Coverage was about how science is done, and people seem to love it. One piece of feedback the press office received congratulated CERN on 'massively raising public understanding of how science works'.

Discussion in the social media was lively and informed – though there were detailed side discussions about the speakers' choices of font for their presentations, and frustration from some that the level was too high.

This week saw the increasingly familiar sight of hordes of journalists descending on CERN to hear the latest news from the LHC. There were 66 of them to be precise, many of whom announced to us they planned to come for the seminar long before they were invited. It's a sign of the times that science that used to be conducted in private is now carried out in the public domain. That has the potential to be very good news for science, and for society as a whole, particularly when CERN's scientists do such a great job of conveying the passion and excitement of their research.

Someone even suggested that we should run a parallel webcast giving a simultaneous interpretation for the general public. Although that didn't happen on Tuesday, many scientists chipped into the debate on twitter and in blogs. One live blog from the main auditorium attracted a following of more than 30,000 people, while despite a few technical glitches, CERN's webcast was tuned into from over 110,000 individual IP addresses. And CERN's following on twitter broke the 400,000 barrier.

At the end of the day, one journalist jokingly speculated on twitter that spin doctoring might have been the reason that everyone he spoke to told the same story. The reality, of course, is simply that we have great stories to tell. And as we all know, the Higgs needs zero spin.

James Gillies

## More information

To watch the Higgs press conference featuring ATLAS Spokesperson Fabiola Gianotti, CERN Director-General Rolf Heuer and CMS Spokesperson Guido Tonelli, go to:

[https://cdsweb.cern.ch/  
record/1406043](https://cdsweb.cern.ch/record/1406043)

For images of the Higgs update seminar, including a 360° view of the conference room, go to:

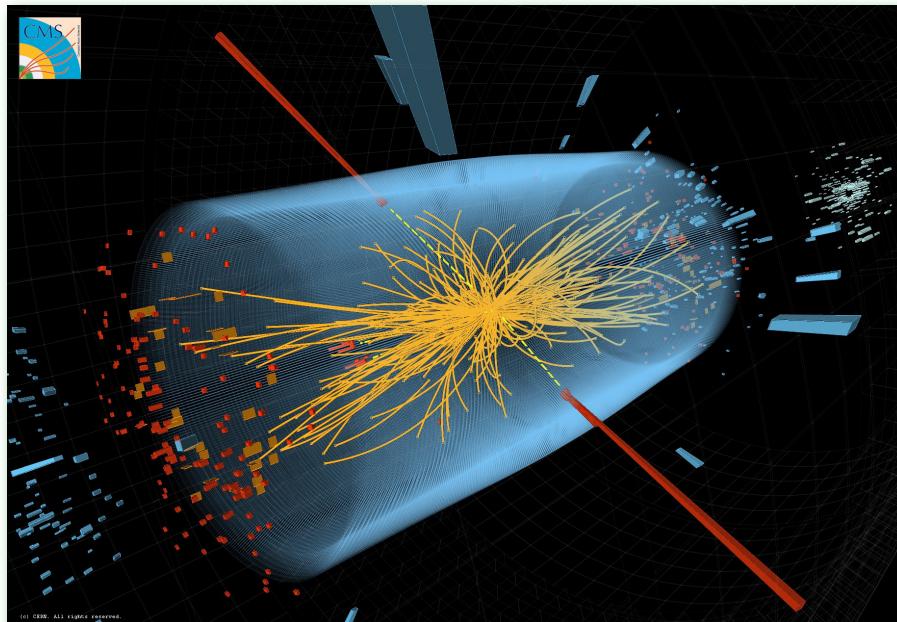
[https://cdsweb.cern.ch/  
record/1406060](https://cdsweb.cern.ch/record/1406060)

To read the press release, go to:

[http://press.web.cern.ch/press/  
PressReleases/Releases2011/  
PR25.11E.html](http://press.web.cern.ch/press/PressReleases/Releases2011/PR25.11E.html)

Physics Nobel Laureate Jerome Friedman answers the question "Higgs or no Higgs?":

[https://cdsweb.cern.ch/  
record/1406849](https://cdsweb.cern.ch/record/1406849)



A typical Higgs candidate event in the CMS detector.

# DESY in 2012: A year of light and dust

The 2-kilometre-long accelerator tunnel of the European XFEL and the injector building on the DESY campus

are ready, and will be technically equipped and prepared for the accelerator installation. The first accelerator modules will not be put in place before 2013, but a new module test hall will soon become operational and is expecting its first pre-series cavities and modules.

FLASH II is another impressive construction site on the DESY premises. The area around FLASH, the free-electron laser for soft X-rays, looks quite like a sandbox at the moment. A second beamline for photons and a second experimental hall to satisfy

**While 2011 will go down in history as the construction year at DESY, there might even be more of it in 2012. The construction activities will spread across the entire DESY campus and will go from mere digging in the dirt to high-tech installations.**

the high demand of scientific users will be erected next year.

With the construction of two extension halls for PETRA III, the super-brilliant X-ray light source, DESY will offer additional, novel research possibilities with dedicated experiments and beamlines for materials sciences, structural biology and life sciences. This has attracted international cooperation partners from Sweden, Russia and India.

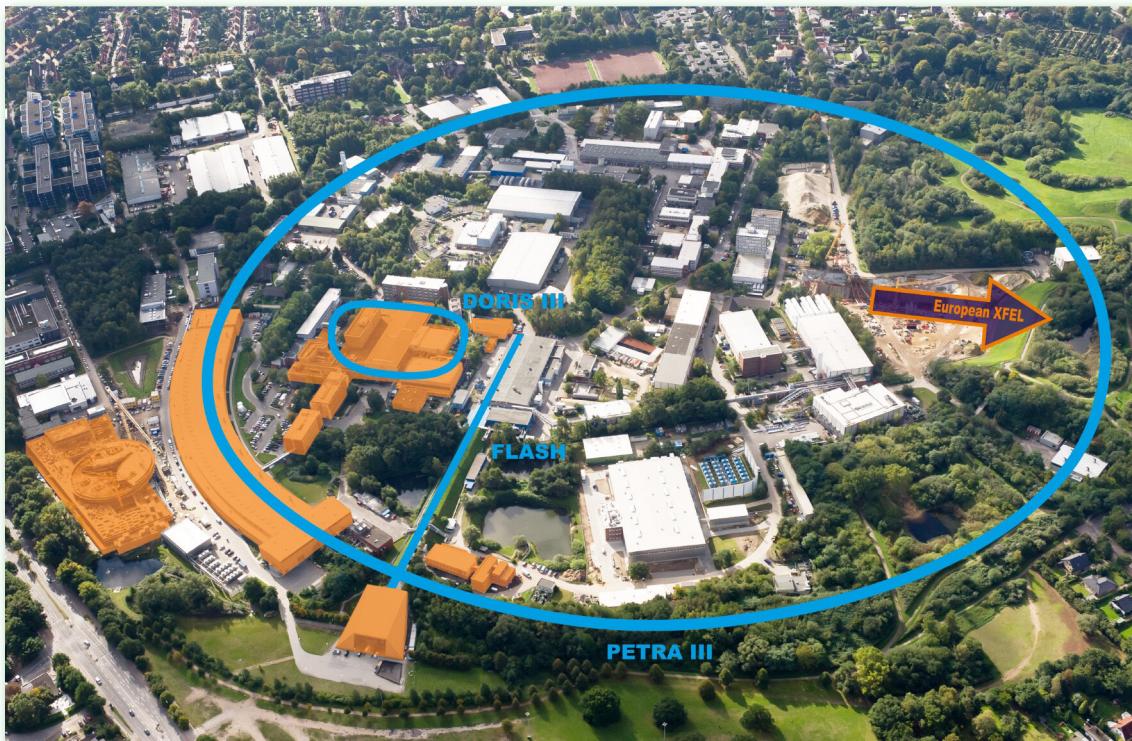
After phasing out the synchrotron radiation operation, the DORIS storage ring will

return for a last time to particle physics with a dedicated run at the end of the year for the OLYMPUS experiment. This will involve colliding electrons and positrons with a gas target to measure the two-photon contributions to elastic electron-proton scattering.

2012 also marks the 100th anniversary of the discovery of X-ray diffraction by Max von Laue, who demonstrated unambiguously the wave character of X-rays and the lattice structure of crystals. Following tradition of the X-ray experiments using our cutting-edge light factories, DESY will celebrate this anniversary with a festive Max von Laue Symposium in late summer 2012.

So let's accelerate together into a happy new year 2012!

Frank Lehner



*Location of the DORIS III and PETRA III storage rings, the two free-electron laser FLASH, and the planned position of the European XFEL accelerator tunnel. Copyright: DESY 2010.*

# Fermilab in 2012: Upgrades shift focus to the intensity frontier

**A**t the high-energy frontier of particle physics, Fermilab scientists will continue analysing the dataset from the recently retired Tevatron particle accelerator's two experiments, CDF and DZero, and will continue their strong participation in the CMS experiment at the LHC.

Neutrino physics at Fermilab will take a big step forward. In February, crews will begin assembling the 15,000-ton NOvA far detector in northern Minnesota. The detector will begin measuring properties of neutrinos sent from Fermilab to Minnesota in 2013. The lab expects to receive full approval

The upcoming year will be busy at Fermilab, and the largest projects are already beginning. Friday 16 December marks the ground-breaking for the Illinois Accelerator Research Center, a 3,900-square-metre building for accelerator research and development, industrialisation and training of the future generation of accelerator scientists. The centre is expected to open in about two years.

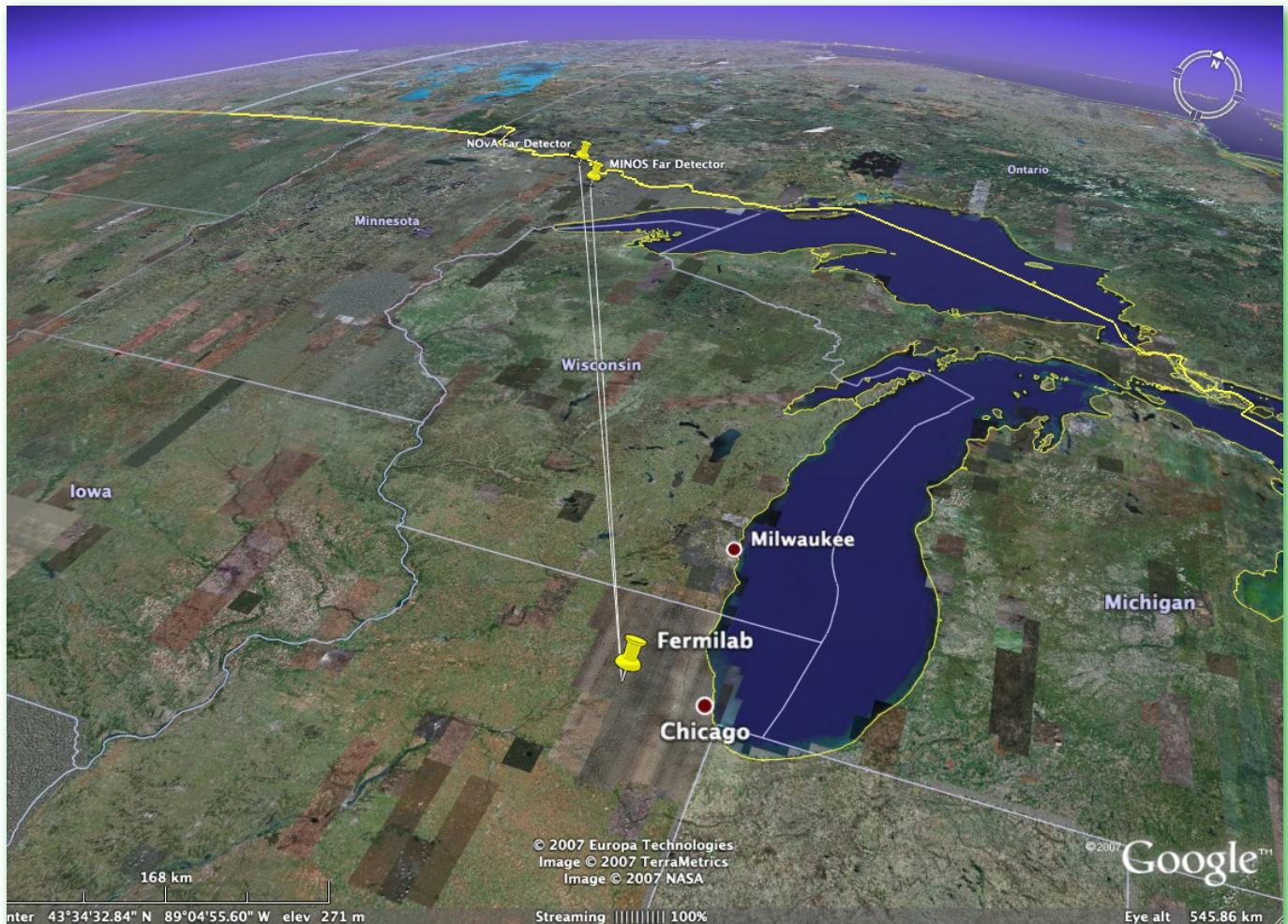
for and begin construction of the 170-ton MicroBooNE neutrino detector, which is based on liquid-argon technology. Planning for the Long-Baseline Neutrino Experiment, which would send neutrinos from Fermilab to South Dakota, will also continue throughout 2012.

The new year will bring some changes for the Fermilab accelerator complex. In the spring the complex will shut down for a

year-long upgrade in preparation for the NOvA neutrino (see image) and new muon experiments. Advanced accelerator R&D will also move forward, with the installation of a second complete cryomodule and progress toward the completion of a superconducting radio-frequency test accelerator, in addition to the construction of the new accelerator research centre.

In the area of particle astrophysics, scientists in Chile will finish installing the Dark Energy Camera on the Blanco telescope, the cryogenic dark matter search will begin taking data with an improved detector, and the COUPP dark-matter experiment will move its 60 kg detector from Fermilab to SNOLAB in Canada.

Kurt Riessellmann and Amy Dusto,  
Fermilab Office of Communication



The NOvA project will generate and send a beam of neutrinos to a 15,000-ton detector in Ash River, Minnesota. The neutrinos will complete the 800-kilometre trip in less than three milliseconds. Image source: NOvA Experiment.

# IN2P3 in 2012: A year for harvesting and looking ahead

**R**egardless of the surprises Nature may hold in store for us, one thing is sure: the coming months will be decisive for our research. CERN's research impinges on all the Institute's main areas of research. At the LHC, researchers from ten IN2P3 laboratories (and from its computing centre) are involved in the four major experiments: ATLAS, CMS, LHCb and ALICE. In 2012, no fewer than 248 researchers will be continuing their eager pursuit of the Higgs boson, and keeping a lookout for new physics. Neutrinos could also reveal some of

**The coming year is expected to be a rich and exciting one, and researchers in the 24 laboratories and platform facilities of the French National Institute of Nuclear and Particle Physics (IN2P3) are at the heart of this dynamic new science.**

their mysteries, thanks to ongoing research at the Opera experiment in Gran Sasso, Italy, and other experiments including Double Chooz in the Ardennes and T2K in Japan.

In the domain of nuclear physics, the future accelerator known as SPIRAL 2 will be a world-class international facility for studying the structure of the atomic nucleus in

greater detail. Its construction, at the GANIL site in Caen, France, is slated to be completed in 2012, and the first data are expected to be delivered in 2013.

Finally, in astroparticle physics the first results from AMS, an experiment that counts 16 IN2P3 scientists among its participants, could improve our knowledge about antimatter in the universe.

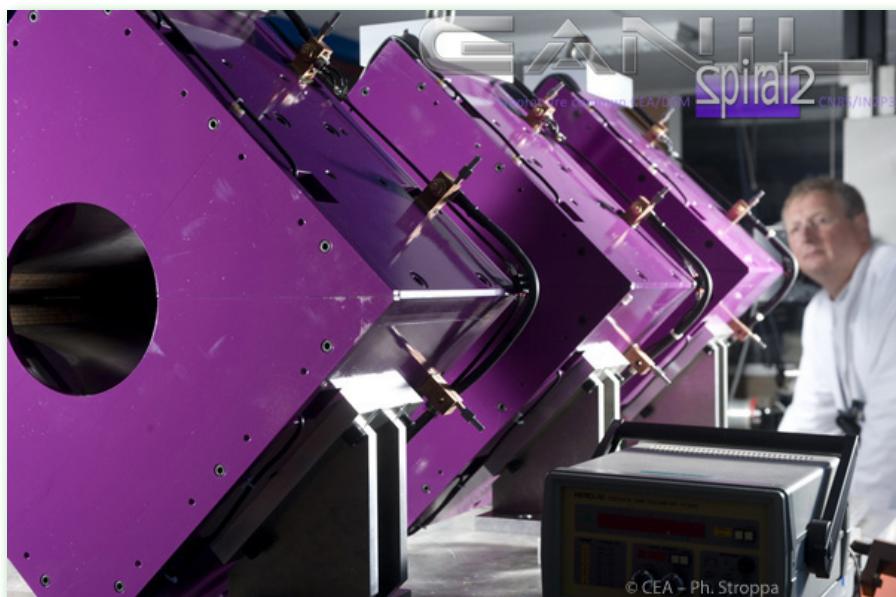
2012 will also be a year for reflection: as the roadmap for particle physics in Europe starts to take shape, French scientists from IN2P3 and from the CEA institute IRFU will be meeting in the spring to present and discuss the main aspects of the two institutes' scientific programmes for the next ten years. A major challenge for the French community of physicists, for whom the coming years—starting with 2012—promise to be exciting from the scientific point of view.

Follow IN2P3 on Twitter ([twitter.com/in2p3\\_cnr](http://twitter.com/in2p3_cnr)) and in the Quantum Diaries ([www.quantumdiaries.org/author/cnrs-in2p3/](http://www.quantumdiaries.org/author/cnrs-in2p3/)).

More on the IN2P3's and IRFU's reflections on future prospects are available at:

[journeesprospective-in2p3-irfu.in2p3.fr/](http://journeesprospective-in2p3-irfu.in2p3.fr/)

*Jacques Martino,  
Director of the French National Institute  
of Nuclear and Particle Physics (IN2P3)*



SPIRAL 2 magnets under test. Copyright: CEA/Ph.Stroppa.

# INFN: Searching for new physics

**A**nswers to some of the current questions will come from data collected by the LHC, which will tell us definitively if the

Higgs boson exists and, if it does, what its mass is. However, the LHC may present us with surprises in the form of signatures of new physics that nobody can currently predict. Certainly a significant part of the resources and focus of Italian physicists, and the Italian National Institute for Nuclear Physics (INFN), will continue to be directed towards Geneva.

**The numerous achievements made by particle physicists in recent years have raised interest and triggered high expectations not only among physicists around the world, but also outside the circle of insiders. The hope for 2012 is to be able to meet as many of these expectations as possible.**

However, we could come across new physics through two other research fields: the search for signals of dark matter; and investigations into neutrino physics, a field that continually seems to hold surprises. Experiments at the Gran Sasso Laboratory and on satellites orbiting the Earth are looking for feeble signals from weakly interacting particles. These experiments will also

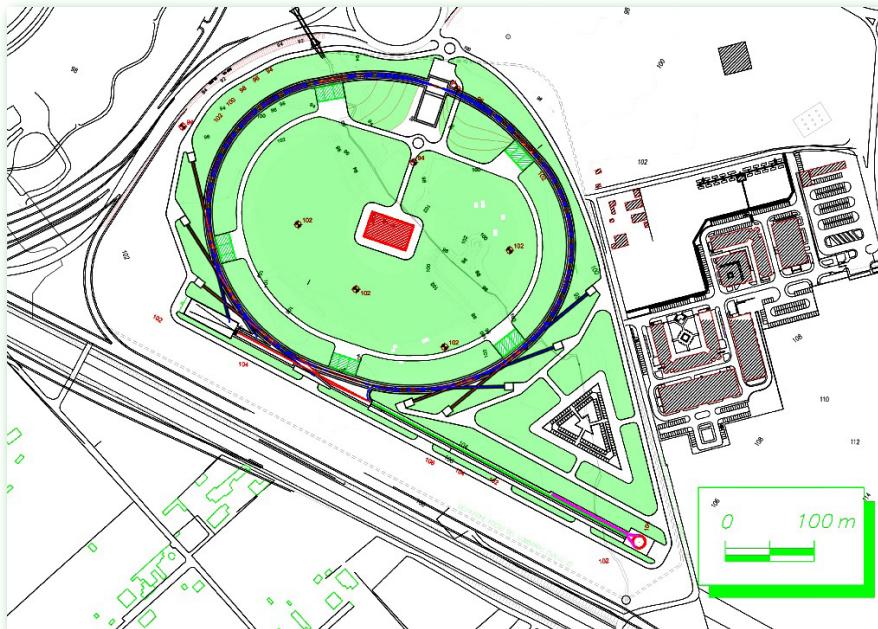
help us find a more precise way to search for dark matter. In the cosmic silence of the Gran Sasso underground laboratory, attention will also be paid to the study of the double beta decay, which may enlighten us about the real nature of neutrinos. Not to be neglected, of course, is the verification of the surprising results of the speed of neutrinos produced at CERN.

Funding has recently been granted to the INFN for the construction of a large submarine infrastructure off the shores of Sicily that will study cosmic neutrinos. The new experiment will provide an extraordinary antenna to European physicists, constantly searching for cosmic signals. Though of a different nature, cosmic gravitational waves examined by the EGO interferometer based in Pisa are equally important for widening our horizons.

Moreover, 2012 will see the construction of the international laboratory dedicated to Nicola Cabibbo, which will provide the infrastructure for the new SuperB accelerator. The high expectations of a large international community and the INFN will keep this project in the spotlight over the coming years.

We do not yet know where the signs of new physics will come from; nor do we know what discoveries are on their way. As seen from Italy the future of particle physics looks bright.

*INFN Communication Office*



Layout of the new SuperB facility.

# ILC in 2012: Decisions ahead!

2012 will be a big one for the potential next big thing in particle physics: towards the end of the year the community plans to release its Technical Design Report, that all-important publication that basically says "we're ready – just say the word".

Of course the future of particle physics in the world depends crucially on results from the LHC, so we are all curious (on the edge of our seats may describe it more appropri-

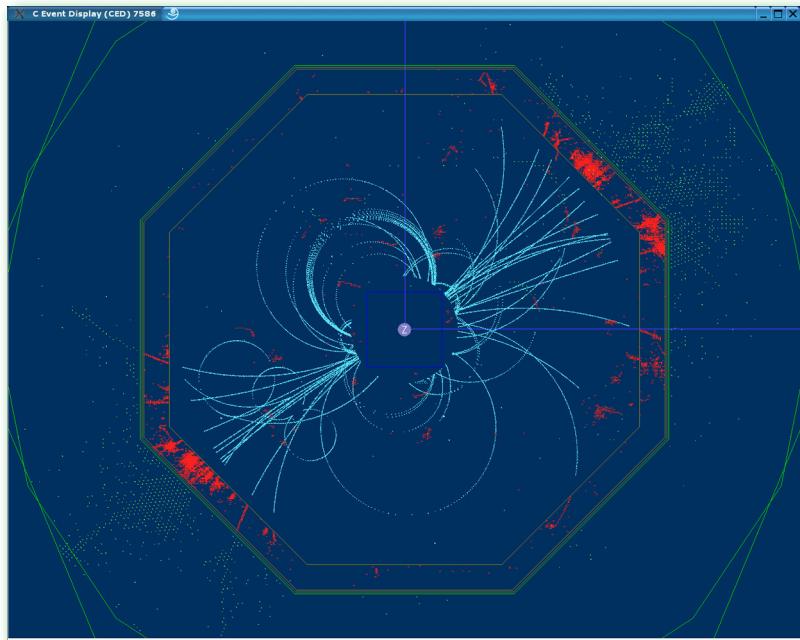
**The 2000 or so people from around the world who are planning and developing the International Linear Collider (ILC) are starting to get this funny feeling when something that you have been working on and looking forward to for a long, long time is suddenly just around the corner.**

ately) to see what the big discovery machine will tell us about Standard Model Higgs particles (or not), dark matter and all those other unsolved mysteries on which the next generation of particle accelerators will shed more detailed light. In the meantime, we have worked on improving and maturing the ILC technologies (see our Technical

Progress Report published this year) and forming collaborations with CLIC in many different areas.

By the end of next year, it should be clearer what kind of machine we need to complement the LHC. The group that has been busy designing and coordinating the ILC research. Development work will officially cease once the TDR is published and we'll move on to the next phase: a pre-lab, site studies, new management structure and all that. But while work on our report has already begun, we're all looking forward to a few days off over the holidays to celebrate the end of a good year, each according to customs from across the world.

*Barry Barish (Director of the Global Design Effort for the International Linear Collider)*



Simulation of a Higgs event in a future ILC detector. Copyright: DESY 2006.

# KEK: Flavoured future

The Photon Factory, a light source facility used for various kinds of material and life science research, resumed operation in October. This allowed it to continue its many investigations, including the analysis of the asteroid sample returned by the Hayabusa spacecraft.

J-PARC, a high intensity proton accelerator complex, will resume operation of the Materials and Life Science Facility, the Nuclear and Particle Physics Facility and the Neutrino Facility in January 2012.

This was also the year that the KEK B-factory, the world-record holding luminosity collider, began its upgrade to SuperKEKB. The Japanese funding agency MEXT approved the project for 2011 and a groundbreaking ceremony was held in November. The "Roadmap" of the Japanese high-energy physics community, originally established in 2007, describes SuperKEKB as a key project for furthering the investigation of quark flavour CP asymmetries.

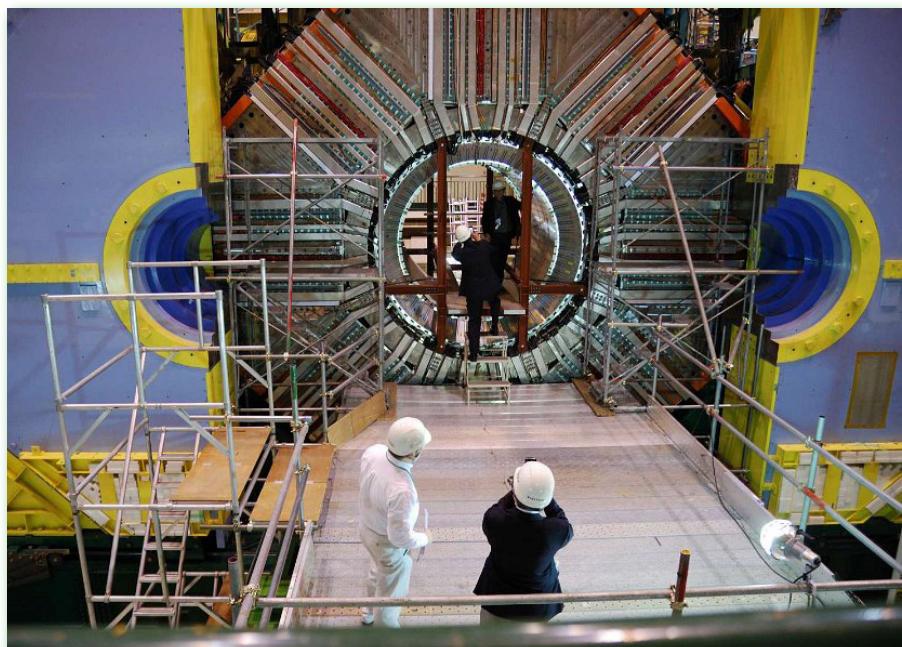
The other project in the Roadmap is a beam-power upgrade of J-PARC, needed for various studies including lepton flavour mixing, which may lead to further investigation of CP asymmetry in leptons. Using data obtained before the earthquake, T2K announced an important breakthrough in the measurement of the neutrino mixing angle in June. Next year, the long baseline

**2011 saw a pivotal moment in KEK's history: we endured severe damage and needed a recovery period following the earthquake in March.**

neutrino experiment T2K, and other types of fixed target experiments at the Hadron Hall and the Muon Facility are expected to accumulate even more data at unprecedented rate.

The roadmap also confirms our commitment to programmes pushing the energy frontier. We support the operation and upgrade of the LHC, as well as increasing efforts to finalise R&D for the International Linear Collider in order to write up the technical design report.

KEK Public Relations Office



*The Belle detector being upgraded to the Belle II detector for SuperKEKB.*



Library  
*Bibliothèque*

*News from the Library*

CERN users can browse and read the complete archives of "Scientific American" since 1845. Among the many interesting articles now readable online, you can find Einstein's account of research on a generalized theory of gravitation.

A small, though important addition to the Library's online collections: "Nature" online is now reaching back to 1987. You can now read online the "Nature" news column reporting about the first anti-atom discovered at CERN (<http://www.nature.com/nature/journal/v379/n6561/pdf/379101b0.pdf>).

**Since a few weeks, the CERN Library has been offering online access to "Scientific American" and "Nature" within a longer timespan. This is part of a long-term plan to extend our e-collections in order to include prestigious scientific journals from the beginning of publication.**

We plan to further expand online access to "Nature", but in the meantime you can rely on the Library's paper collection, starting in 1951. You can visit us or request scanned copies of articles from [library.desk@cern.ch](mailto:library.desk@cern.ch). Articles predating 1951 can be quickly obtained via the Interlibrary Loan service.

Finally, as many of you leave during Christmas holidays, be aware that you can still enjoy the reading of e-journals and e-books wherever you are, thanks to the Library proxy server (<https://library.web.cern.ch/library/Library/remote.html>).

All the Library team wishes a Merry Christmas and a Happy New Year to you and your family!

Online access to Nature is available at:  
<https://cdsweb.cern.ch/record/229690?ln=en>

Online access to Scientific American is available at:  
<https://cdsweb.cern.ch/record/229844?ln=en>

Please send any questions or comments to [library.desk@cern.ch](mailto:library.desk@cern.ch).

*CERN Library*



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## MODIFICATIONS TO THE RULES OF THE CERN HEALTH INSURANCE SCHEME (CHIS) ON 1 JANUARY 2012

Following the 2010 five-yearly review of the financial and social conditions of the members of the personnel, the Council decided to make a number of changes to the contributions to the CERN Health Insurance Scheme and to authorise the Director-General to take timely measures to limit the increase of CHIS expenses by encouraging the use of health care providers and treatments which provide the best quality-to-cost ratio. These decisions are intended to allow the general level of cover to be maintained in the future.

The CERN Health Insurance Supervisory Board subsequently gave careful consideration to measures which would not only allow costs to be contained but would also ensure a fairer distribution of benefits while simultaneously providing greater protection for those suffering from serious health problems and hence having to face substantial expenses.

On the proposal of the CHIS Board, and following examination by the Standing Concertation Committee at its meetings on 27 April and 1 September 2011, the Director-General has approved new rules, which will enter into force on 1 January 2012.

### **The following changes will affect all insured members:**

1. The 200 CHF annual deductible will no longer be applied, so that all insured members will henceforth be entitled to reimbursement without having to exceed a given level of expenditure.
2. New General Reimbursement Rule: the reimbursement rate will be progressive and depend on the total Costs Borne by the Insured Member (known by the French acronym "FCA") during a given calendar year, as shown in the table below:

3. Changes in the tariff systems of public hospitals, which have included the introduction of authorised extra billing in their private and semi-private sectors, have made hospitalisation in these sectors as expensive as in private clinics. Hospitalisation in the private and semi-private sectors of public hospitals will therefore be reimbursed in the same way as hospitalisation in approved private hospitals in future, i.e. in accordance with the General Rule referred to in paragraph 2 above. However, hospitalisation in the public sector of public hospitals will continue to be reimbursed at the rate of 100%.
    - o Refractive surgery will be reimbursed in accordance with the General Reimbursement Rule, up to a ceiling of 2000 CHF per eye for the entire duration of membership of the CHIS. This benefit will be available only after at least one year of membership and will require prior authorisation by the Scheme's administrator (UNIQA).
    - o Expenditure on dental treatment will be reimbursed in accordance with the General Reimbursement Rule, up to an annual ceiling of 3300 CHF which can be cumulated over 3 years.
  5. A bonus of 5 percentage points will be added to the reimbursement rate for outpatient expenditure (doctors' fees, pharmaceutical expenses, analyses and medical imaging, etc.) incurred in those CERN Member States where health care costs are the lowest. The list of these countries is given in Annex I of the CHIS Rules and will be updated every year, based on the health care costs published by the OECD.
- Hospitalisation in non-approved private hospitals will be reimbursed at the rate of 80% and the costs borne by the insured member will not be taken into account to qualify for one of the higher reimbursement rates set out in the table above.
- In all cases, any supplements for a private one-bed ward will continue to be fully borne by the insured member as before.
4. The introduction of the General Rule means that henceforth ceilings will have to be expressed in terms of expenditure rather than in terms of reimbursement. By dividing the existing ceilings by 0.9, the same level of benefits will be maintained. In addition, in certain cases, it will be possible for the unused part of the ceiling to be carried over to future years.
    - o Benefits under the optics heading (spectacles and contact lenses) have been simplified: the reimbursement rates of the General Reimbursement Rule will apply, up to an annual ceiling of 500/CHF which can be cumulated over 3 years.

The new CHIS Rules, which will enter into force on 1 January 2012, are available on the CERN website: [www.cern.ch/chis](http://www.cern.ch/chis)

General questions or comments about these changes may be submitted to chis.info@cern.ch

### **Additional information is available:**

- in the next issue of the CHIS Bull', which will be published before the end of the year, and which will explain the new measures through concrete examples.
- from the Scheme's administrator, UNIQA, for questions related to the application of the new rules to your personal situation (uniqa@cern.ch, tel. 72730).

HR Department

Costs Borne by the Insured Member (FCA) during a calendar year	Reimbursement rate
Up to 499.99 CHF	80%
From 500 CHF and up to 2999.99 CHF	90%
3000 CHF	100%



## Take note

### PREPARE FOR X-WIN32 - THE NEW X11 SERVER SOFTWARE FOR WINDOWS COMPUTERS

Starnet X-Win32 will replace Exceed as the X11 Server software on Windows computers by February 2012. X11 Server software allows a Windows user to have a graphical user interface on a remote Linux server.

This change, initially motivated by a significant change of license conditions for Exceed, brings an easier integration of Windows and Linux logon mechanisms. At the same time, X-Win32 addresses the common use cases while providing a more intuitive configuration interface.

CERN Predefined Connections will be available as before. They offer an easy way of starting applications on LXPLUS using PuTTY or starting the KDE, GNOME or ICE window managers. Since X-Win32 is better integrated with SSH and CERN Kerberos compared to Exceed, it is much simpler to set up secure access to Linux services. The decision to choose X-Win32 as the new X11 software resulted from an evaluation that involved various user

communities and support teams. More information, including the documented use cases, is available at

[https://www.cern.ch/winservices/  
Help/?kbid=030150](https://www.cern.ch/winservices/Help/?kbid=030150)

The migration path provides the time to use X-Win32 while Exceed is still available. As of January 10th, CMF will propose to install X-Win32 on those centrally managed computers where Exceed was previously installed. After you accept the installation prompt, CMF will install X-Win32 and you can start using it. If you encounter a problem, the Service Desk can assist you and you can fall back on using Exceed to carry on your work.

This transition phase will end at the end of February, when Exceed will be uninstalled from all NICE PCs. Please note that while X-Win32 and Exceed can be installed on the same computer, they should not be started at the same time.

*Michał Kwiątek (IT-OIS)*

### 18TH ONASSIS FOREIGNERS' FELLOWSHIPS PROGRAMME – ACADEMIC YEAR 2012-2013

The Alexander S. Onassis Public Benefit Foundation operates an annual Programme of Research Grants and Educational Scholarships addressed to foreign (non-Greek) Scholars, Researchers, Artists and Postgraduate Students.

Interested parties are invited to apply before **February 29, 2012**. More information is available at [www.onassis.gr](http://www.onassis.gr).

### DANISH FIRMS VISIT CERN

30 – 31 JANUARY 2012

09:00 to 17:00 Monday 30 January

09:00 to 17:00 Tuesday 31 January

Individual interviews will take place in technicians' offices. The firms will contact relevant users/technicians but any user wishing to make contact with a particular firm is welcome to use the contact details available from the secretariat of their department or from the GS Department web page:

<http://gs-dep.web.cern.ch/en/content/Industrial-Exhibitions>

#### List of Companies:

- Axcon APS
- BB Electronics A/S
- B.Rustfrit Stål A/S
- CIM Industrial Systems A/S
- Danfysik A/S
- Develco A/S
- Eletronic A/S
- GPV Group
- Innoware A/S
- JLI Vision A/S
- NECAS A/S- NKT Cables A/S
- Noliac A/S
- Prodan A/S
- Röttger's Vaerktoj A/S
- Vengcon APS

For further information please contact  
Claudia Bruggmann Furlan GS-IS-LS  
73312 or Caroline Laignel GS-DI 73722.



## Take note

### CERN SERVICES AVAILABILITY DURING THE CERN ANNUAL CLOSURE 2011

#### General Services:

Most of the services provided by the GS Department that do not depend on continuous human presence will remain available during the CERN annual closure.

Support levels are reduced during this period, in general the target reaction time for problems will be ½ day.

Apart from the heating system, no interruptions are scheduled.

In case of failure, the reaction time for restoration of services depends on the arrangements that have been made on a service by service level.

Incidents will be documented at <http://gssb.web.cern.ch/>

For more detailed information please consult the service-portal (<http://cern.ch/service-portal>).

#### Computing Services

Most of the services provided by the IT Department - including WLCG production services - will remain available during the CERN annual closure. No interruptions are scheduled but in case of failure, the restoration of services cannot be guaranteed.

Problems will be dealt with on a best effort basis only. However, please note:

- Experts should be reachable to start investigations on the following services within about half a day except around Christmas Eve and Christmas Day (24 and 25 December) and New Year's Eve and New Year's Day (31 December and 1 January) -- Databases, Linux, Mail, Printing, Telecom, Web, Windows & Windows Terminal Services, Account Management, Castor, Indico, Inspire, Invenio, Grid (SAM, Gridview, Nagios, messaging), and the room booking system. Incidents will be documented at <http://cern.ch/itssb>.
- All network and telecom services will run as usual, the first-line support

will operate normally, but no change requiring a human intervention will be possible.

- The backup service will remain operational, but backups cannot be guaranteed and file restores may not be possible.
- For the Castor service, damaged tapes will not be processed.
- Please note that the operator service where urgent problems may be addressed will be maintained throughout and can be reached at 75011 or Email: [computer.operations@cern.ch](mailto:computer.operations@cern.ch).

Potential computer security incidents should be reported to [Computer.Security@cern.ch](mailto:Computer.Security@cern.ch) or 70500 as usual.

Please note that the Service Desk will be closed but through 77777 the calls will be redirected to the appropriate support groups.

Please remember to shutdown and power off any equipment in your office that is not required during the annual closure.

*IT & GS Department*

### NEW VERSION OF THE WEB BASED CERN PHONEBOOK

A new version of CERN's web-based phonebook will be deployed during the weekend of 17/18 December 2011. The most important new feature will be the possibility to see the CERN identity card photo of every person listed in the phonebook who has a registered photo.

The photo will be available on each person's details page and will be visible to all employed and associated members of the personnel who have the appropriate authentication (i.e. those who log in using their AIS login).

More information about other new features of the release will be available from 19 December 2011 from the webpage detailing the version history of the CERN phonebook.

*GS Department*

### LET'S GO FOR A NEW ATOMIADE!

Have you already heard about the Atomiade? Everybody knows about the Olympic Games. Atomiade are Olympic Games for physics research institutes. The aim is to get the people from all European institutes to meet in a friendly manner through sport events...

... sport being a reason to meet and enjoy rather than a real challenge. Ask the participant to the previous one in La Clusaz.

Come! Join us for the next Atomiade: a summer one!

It will take place in Saclay from 15 to 19 of June 2012 and is organized by the CEA (more information are available at: <https://espace.cern.ch/atomiaades/default.aspx>).

A large number of sports (21) are represented, ranging from athletics to bowling, sailing to swimming, squash... All the sports are described in this flyer and the full list is available on

<http://cern.ch/atomiaades>

Come, join the event! Register before 5 January at:

<https://espace.cern.ch/atomiaades/Lists/Registration/NewForm.aspx>

*Bruno Lenski, Atomiade Linkman for CERN*



## Take note



### BULLETIN PUBLICATION SCHEDULE FOR 2012

The table below lists the 2012 publication dates for the paper version of the Bulletin and the corresponding deadlines for the submission of announcements. Please note that all announcements must be submitted by 12.00 noon on Tuesdays at the latest.

Bulletin No. Week number	Submission of announce- ments (before 12.00 midday)	Bulletin Web version	Bulletin Printed version
4-5	Tuesday 17 January	Fridays 20 and 27 January	Wednesday 25 January
6-7	Tuesday 31 January	Fridays 3 and 10 February	Wednesday 8 February
8-9	Tuesday 14 February	Fridays 17 and 24 February	Wednesday 22 February
10-11	Tuesday 28 February	Fridays 2 and 9 March	Wednesday 7 March
12-13	Tuesday 13 March	Fridays 16 and 23 March	Wednesday 21 March
14-15	Tuesday 27 March	Friday 30 March and Thursday 5 April	Wednesday 4 April
16-17	Tuesday 10 April	Fridays 13 and 20 April	Wednesday 18 April
18-19	Tuesday 24 April	Fridays 27 April and 4 May	Thursday 3 May
20-21	Tuesday 8 May	Fridays 11 and 18 May	Wednesday 16 May
22-23	Tuesday 23 May	Fridays 25 May and 1 June	Wednesday 30 May
24-25	Tuesday 5 June	Fridays 8 and 22 June	Wednesday 13 June
26-27	Tuesday 19 June	Fridays 22 and 29 June	Wednesday 27 June
28-29	Tuesday 3 July	Fridays 6 and 13 July	Wednesday 11 July
30-31	Tuesday 17 July	Fridays 20 and 27 July	Wednesday 25 July
32-33-34	Tuesday 31 July	Friday 3 August	Wednesday 8 August
35-36	Tuesday 21 August	Fridays 24 and 31 August	Wednesday 29 August
37-38	Tuesday 4 September	Monday 10 and Friday 14 September	Wednesday 12 September
39-40	Tuesday 18 September	Fridays 21 and 28 September	Wednesday 26 September
41-42	Tuesday 2 October	Fridays 5 and 12 October	Wednesday 10 October
43-44	Tuesday 16 October	Fridays 19 and 26 October	Wednesday 24 October
45-46	Tuesday 30 October	Fridays 2 and 9 November	Wednesday 7 November
47-48	Tuesday 13 November	Fridays 16 and 23 November	Wednesday 21 November
49-50	Tuesday 27 November	Fridays 30 November and 7 December	Wednesday 5 December
51-52/1-2-3	Tuesday 11 December	Friday 14 December	Wednesday 19 December

If you wish to publish a news article or an item in the General Information or Official News sections, please contact:

**Bulletin-Editors@cern.ch**

If you wish to publish an announcement in the Staff Association section, please contact:

**Staff.Bulletin@cern.ch**

*Publications Section, DG-CO group*





## Take note

### FAMELAB COMPETITION

Are you 18 to 35 years old and studying or working in science in Switzerland? Are you passionate about your job and keen on exciting public imagination with a vision of the 21st century of science? Then this competition is for you!

For more information, check out <http://www.famelab.ch/> or <http://famelab.org/> or write to [info@famelab.ch](mailto:info@famelab.ch). Read more about the Famelab competition in the Bulletin No. 49-50/2011.

**FameLab**  
TALKING SCIENCE  
in association with NESTA

# PASSIONATE ABOUT SCIENCE? SHARE IT WITH THE WORLD!

If you would like to engage the public with science, technology, engineering or maths then enter the competition to find the country's new science communication talent.

For full details, including competition closing dates and terms & conditions of entry, visit:  
[famelab.org/uk](http://famelab.org/uk)

Follow us on  
Twitter: @famelabUK #giveitago #famelab  
Facebook: [facebook.com/FameLabInternational](https://www.facebook.com/FameLabInternational)

**YOU COULD WIN:**

- Expenses paid Famelab master class to develop your public engagement skills
- £1000 + £750 to spend on a public engagement activity
- National and International public engagement opportunities

**LET'S TALK SCIENCE!**  
All it takes is three minutes!  
Send us your video entry or perform live at one of these regional heats:

- 8 October Newcastle Centre for Life
- 20 and 25 October Oxford Science Oxford
- 12 November Cardiff Chapter Arts Centre
- 19 November Glasgow Glasgow Science Centre
- 23 and 30 November London King's College London
- 3 December Manchester Museum of Science and Industry

The winners of the heats will go through to the **National Final** on 21 March 2012 at the Royal Institution of Great Britain.

Video entry is open now and will close on 31st December.

**Sponsors:**  
The Royal Institution of Great Britain, NESTA, Cheltenham Festivals, Life Science Centre, Glasgow Science Centre, King's College London, MOSI, Science Oxford LIVE.

### INFORMATION FROM THE REGISTRATION SERVICE

Please note that the Registration Service (Bldg 55-1st floor) will be exceptionally open during the annual end of year closure from 10:00 to 12:00 on the following days:

**22, 23, 26, 27, 28, 29 et 30 December 2011 and 2, 3, et 4 January 2012.**

All the activities related to the Registration Service will be operational:

- registration for contractors' personnel;
- registrations for professional visits;
- access cards;
- car stickers;
- biometric registration.

*The Registration Service, GS Department*

### CAR STICKERS FOR 2012

The 2012 car stickers are now available.

- Holders of blue car stickers will receive by internal mail their 2012 car stickers as of 5 December.
- Holders of red car stickers are kindly requested to come to the Registration Service (Building 55, 1st floor) to renew their 2011 stickers. This service is open from Monday to Friday from 7.30 am to 5.30 pm non-stop. Documents related to the vehicles concerned are mandatory.

*Reception and Access Control Service  
GS/IS/SIS  
General Infrastructure Services Department*



## Language training



## Technical training

### GENERAL AND PROFESSIONAL FRENCH COURSES

The next session will take place from 30th of January to 5th of April 2012.

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

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

<http://hr-training.web.cern.ch/hr-training/> or contact Kerstin Fuhrmeister (kerstin.fuhrmeister@cern.ch)

#### Oral Expression

This course is aimed for students with a good knowledge of French who want to enhance their speaking skills.

Speaking activities will include discussions, meeting simulations, role-plays etc.

Suitable candidates should contact Kerstin Fuhrmeister (70896) or Martine Zuffi (73483) in order to arrange an appointment for a test.

The next session will take place from 30th of January to 5th of April 2012.

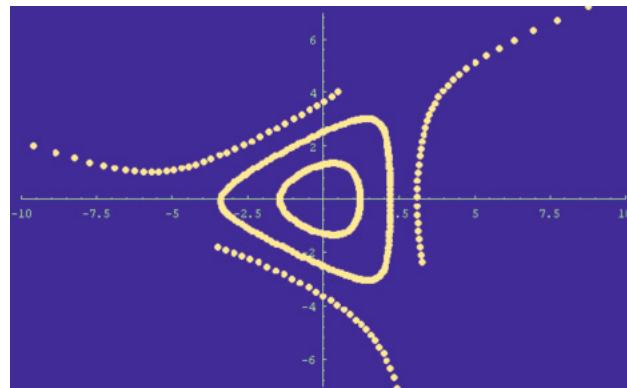
#### Writing professional documents in French

These courses are designed for non-French speakers with a very good standard of spoken French.

Suitable candidates should contact Kerstin Fuhrmeister (70896) or Martine Zuffi (73483) in order to arrange an appointment for a test.

The next session will take place from 30th of January to 5th of April 2012.

### AXEL-2012 - INTRODUCTION TO PARTICLE ACCELERATORS



#### CERN Technical Training 2012: Learning for the LHC!

**AXEL-2012** is a course series on particle accelerators, given at CERN within the framework of the Technical Training Program. Being part of BE Department's Operation Group Shutdown Lecture series, 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-2012** 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 16th – 20th of January 2012, and given in English with questions and answers also possible in French. The lecturer is Rende Steerenberg, engineer and section leader in the BE-Operation

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-2012, 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 BE-OP AXEL-2012 web page

#### Organizers:

Michael BENEDIKT / BE-OP/73380, Elise ROMERO / HR-DI-LD / 72844

ENSEIGNEMENT TECHNIQUE  
TECHNICAL TRAINING  
[technical.training@cern.ch](mailto:technical.training@cern.ch)



# Seminars

## THURSDAY 5 JANUARY

### INDUCTION PROGRAMME

09:00 -Globe, Bldg. 80 1st floor

### INDUCTION PROGRAMME - 1st Part

N. DUMEAUX, S. L. HOBSON / CERN, D. SERAFINI

## MONDAY 9 JANUARY

### TH JOURNAL CLUB ON STRING THEORY

14:00 -TH Auditorium, Bldg. 4

### Stokes phenomena and quantum integrability in non-critical string/M theory

HIROTAKA IRIE / NCTS

## TUESDAY 10 JANUARY

### TH STRING THEORY SEMINAR

14:00 -TH Auditorium, Bldg. 4

### The ABCDEFG of Instantons and W-algebras

C. KELLER / CALTECH

## WEDNESDAY 11 JANUARY

### TH COSMO COFFEE

11:00 - TH Auditorium, Bldg. 4

### TH Cosmo Coffee

- J. BELTRAN / UNIGE

## FRIDAY 13 JANUARY

### PARTICLE AND ASTRO-PARTICLE PHYSICS

#### SEMINARS

14:00 -TH Auditorium, Bldg. 4

TBA

A. LENZ / DEUTSCHE FORSCHUNGSGEMEINSCHAFT (DE)

## MONDAY 16 JANUARY

### TH JOURNAL CLUB ON STRING THEORY

14:00 -TH Auditorium, Bldg. 4

### The a-theorem and Counting Degrees of Freedom in QFT

M. BUICAN

## WEDNESDAY 18 JANUARY

### TH COSMO COFFEE

11:00 - TH Auditorium, Bldg. 4

TBA

C. CAPRINI / IPHT CEA SACLAY

### TH THEORETICAL SEMINAR

14:00 -TH Auditorium, Bldg. 4

TBA

### ISOLDE SEMINAR

14:30 - Bldg. 26-1-022

### Bohr-Weisskopf revisited

H. HENRY STROKE / NEW YORK UNIVERSITY (US)

## TUESDAY 24 JANUARY

### TH STRING THEORY SEMINAR

14:00 -TH Auditorium, Bldg. 4

### The global gravitational anomaly of the self-dual field theory

S. MONNIER / LPTENS PARIS

## WEDNESDAY 26 JANUARY

### TH THEORETICAL SEMINAR

14:00 -TH Auditorium, Bldg. 4

TBA

B. SAMUEL PIOLINE / CERN