



## WANTED: ELBOW GREASE

In Divonne-les-Bains, an association founded by former CERN personnel is restoring the oldest hydroelectric plant in France. The adventure started more than ten years ago, and now you're invited to take part...



Raymond Bouquin, Henri Slettenhaar and Georges Leskens (from left to right) in front of the marble electric board of the Moulin David hydroelectric plant, in Divonne-les-Bains.

Georges Leskens, a spritely 85-year-old, is president of the **Divonnelectro** association. Georges, a former electrical engineer at CERN, now has a new goal: to bring the *Moulin David* hydroelectric plant in **Divonne-les-Bains**, which he found in a derelict state in 2001, back to life. "When I entered the plant for the first time, I found several remarkable period machines... and the extent of the damage," recalls Georges. "Among other things, the town used the building for storing salt and grit for the roads... so I don't need to tell you what state the mechanisms were in!" Aware of the historical value of the site (see box), Georges convinced the Deputy and Mayor of Divonne, Etienne Blanc, to renovate the plant and, while he was at it, to manage the project. "Along with Gérard Vindret, a metalwork craftsman from Divonne who is passionate about old machines, and a few

friends from CERN [the oldest of whom is now more than 90 years old!] we threw ourselves into the adventure," he explains. In 2002, the *Divonnelectro* association was created.

Eleven years and some 14,000 hours of work later, the association, which now has 50 members (of whom 15 are very active), including former CERN personnel, retirees from SIG (*Services Industriels de Genève*), members of the EDF (*Électricité de France*) Foundation and local people from Divonne, can be proud of its achievements: "The main restoration work is almost finished," says Raymond Bouquin, former electrical engineer at CERN and also a member of *Divonnelectro*. "All of the machines that have been restored work as they did when they were first built. Even the oldest, which dates from 1902, now works like a Swiss watch!"



## SUMMERTIME FOR PHYSICISTS

Summer for particle physicists is the season for "summer conferences" and the past week saw two big meetings in full swing. The 2013 European Physical Society High-Energy Physics (EPS-HEP) conference took place in Stockholm, Sweden, while the Strangeness in Quark Matter conference visited Birmingham in the UK for its 2013 edition.

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# A word from the DG

## SUMMERTIME FOR PHYSICISTS

Such conferences usually mark the culmination of months of hard work to prepare new results and, if nature is kind, they also provide the stage for the announcement of discoveries. But more than that, they allow people to network with colleagues from far and wide. I was at EPS-HEP, which belies its name and, like particle physics itself, has a global reach, with people attending from Asia and the Americas. This year there were some 750 attendees, including many young people. The programme of parallel sessions allowed many of them to present results they had worked on in what can be huge collaborations. It's impressive to see their efforts encouraged this way.

At CERN, the discovery of a Higgs-Boson and the subsequent investigations have dominated much of what we've talked

about recently. This was reflected at EPS-HEP. There were many results from the LHC, including the recent observation of the very rare decay of the Bs to two muons. However, there was much else besides, from many other facilities, large and small, around the world.

Moving beyond the Standard Model, the world-wide search for dark matter has progressed with experiments that are becoming increasingly precise, gaining a factor of 10 in sensitivity every two years. There are also improved results from experiments at the intensity frontier, in the study of neutrinos and in particle astrophysics. In addition, there were presentations of studies on novel ideas for future particle accelerators and detection techniques. These also featured in the special session for the European

Committee for Future Accelerators, which looked at future developments in the context of the European Strategy Update – and where I presented the CERN programme.

These meetings nicely show how global the field has become. They also remind me of the essential resource we have: the young people in the field, who are vital for its future.

Rolf Heuer

(Continued from page 1)

# WANTED: ELBOW GREASE

The association is taking things even further: on its initiative, the town is having a modern 50 kW turbine installed which will provide power for some of Divonne's streetlights. "Eventually, the tourist office, which is a stakeholder in our association, should move into the hydroelectric plant," reveals Henri Slettenhaar, former IT specialist at CERN, who is in charge of communication for the association. "In parallel, we would also like to create a small working museum. Visitors to the tourist office would then be able to learn more about part of the town's history."

With this in mind, Divonnelectro is looking for new members. "We invite newly retired people from CERN, and, more generally, anyone who is interested in our project, to join the association," says Georges. "We all learnt a lot working at CERN, and it's a pleasure to be able to put this knowledge to good use in serving the community."

## Some history

The Divonne-les-Bains hydroelectric power station, constructed in 1887, is the oldest hydraulic plant in France operating in its original building. Originally it supplied the town's grand hotels and thermal baths with electricity.

Until the 1950s, all of Divonne-les-Bains' energy was produced from its river, the Divonne. When EDF was founded in the 1950s, this method of generation was abandoned, along with the majority of the hydroelectric plants in the Pays de Gex and elsewhere. The plant at Divonne-les-Bains was the sole survivor and is now an integral part of the region's industrial heritage.

Are you an electromechanical technician or engineer, an IT specialist, an energy expert, keen on helping to set up a museum, or just willing to give up some of your time? Contact Georges (leskensgeorges@aol.fr) or Henri (hslettenhaar@gmail.com): they will be happy to answer your questions.

The members of the association meet every Tuesday morning, or more frequently if events are planned or for social occasions. For further information, please go to [www.divonnelectro.fr](http://www.divonnelectro.fr).

Divonnelectro participates in the scientific development of renewable and sustainable energy through the organisation of technical conferences and exhibitions at the plant.

Anais Schaeffer



View of the benzole-powered thermic engine from 1907.

# LS1 REPORT: FIRST MISSIONS ACCOMPLISHED

Things are going well in all the Laboratory's accelerators. For the SMACC project at the LHC, work on the machine's outer W bellows is well advanced with over half now opened up. To date we have completed 15% of the project and all the magnet and superconducting circuit consolidation activities are now being submitted to a quality audit by external experts from laboratories all over the world.

Magnets are being replaced according to the schedule and the last of them should be in place before mid-August. The Radiation to Electronics (R2E) project to relocate the electronics is progressing particularly well and is one week ahead of schedule.

At Point 7, the civil-engineering work to widen one of the access galleries is almost complete (see picture 1). At Point 5, drilling to allow the passage of the last of the 14 m-long sleeves, 40 cm in diameter, has been successfully completed.

Unfortunately there is some delay on one of the new magnets currently being built in Russia for the Antiproton Decelerator (AD) as the teams have encountered some problems with the manufacture of the coil. However, it should be possible to absorb this delay within the schedule without too much difficulty.

The first new ventilation unit has been installed at the PS. At LEIR, the cabling campaign has begun, while at the SPS, work has started on the preparatory phase for replacement of the irradiated cables at Access Point 1. This operation is complicated by the ageing infrastructure, but, despite these difficulties, the first beam absorber has been extracted without a hitch.

More generally, the maintenance work on CERN's 400 kV and 66 kV substations being performed by the Electrical Service is progressing well and should be completed by the end of July. Consolidation of the demineralised water supply systems is almost complete; it should be possible to restart production at the beginning of August. Finally, it should be noted that RTE (France's electricity transmission system operator) has requested an additional week to complete maintenance of the protection relays - the equipment responsible for shutting off the power to a section of faulty network whenever necessary - which should be operational at the beginning of August (see picture 2).



Picture 2: maintenance of the protection relays by RTE.



Picture 1: one of the Point 7 access galleries after enlargement.

## Safety and litter: A message for us all

Safety is the first LS1 watchword. Those in charge of ensuring that LS1 runs smoothly therefore wish to remind you that everybody has a responsibility for safety and that no infringement or circumvention of the regulations will be tolerated.

Alongside safety issues, mention should also be made of the need to make sure that the tunnels are kept clean: we would particularly like to draw your attention to the fact that the drainage channels are not dustbins and that cleaning them is very costly in terms of human and financial resources.

CERN Bulletin



# "WANDERING THE IMMEASURABLE"

Art is coming to the Globe garden: from September, you will be able to admire an impressive steel sculpture – a modern symbol of the evolution of science through the ages.

Construction work is under way on Place Galileo Galilei in front of the Globe of Science and Innovation. Soon to arrive on the site is a monumental work of art: a 15-tonne sculpture in stainless steel, measuring 7 metres tall and 10 metres wide.

The story behind this work of art dates back to 2005, when Gayle Hermick, a Canadian sculptor, discovered CERN. "After visiting the CERN site for the first time in 2005, I was captured by the enormity of what the LHC represents – experimentation based on centuries of scientific exploration," she recalls. "Current physics theories are based on those that came before them, which were, in turn, based on other precedents. The connections between theories weave together the story of science, creating a fabric of complex detail."

Out of this inspiring encounter between the artist and CERN, a project was born. Baptised "Wandering the Immeasurable", it takes the form of a ribbon of steel, endlessly coiling and uncoiling to represent infinite possibilities and spanning almost 4,000 years as it retraces part of the history of scientific and technical knowledge worldwide. "On one side of the ribbon, 396 important discoveries are inscribed in their language of origin, accompanied by the names of

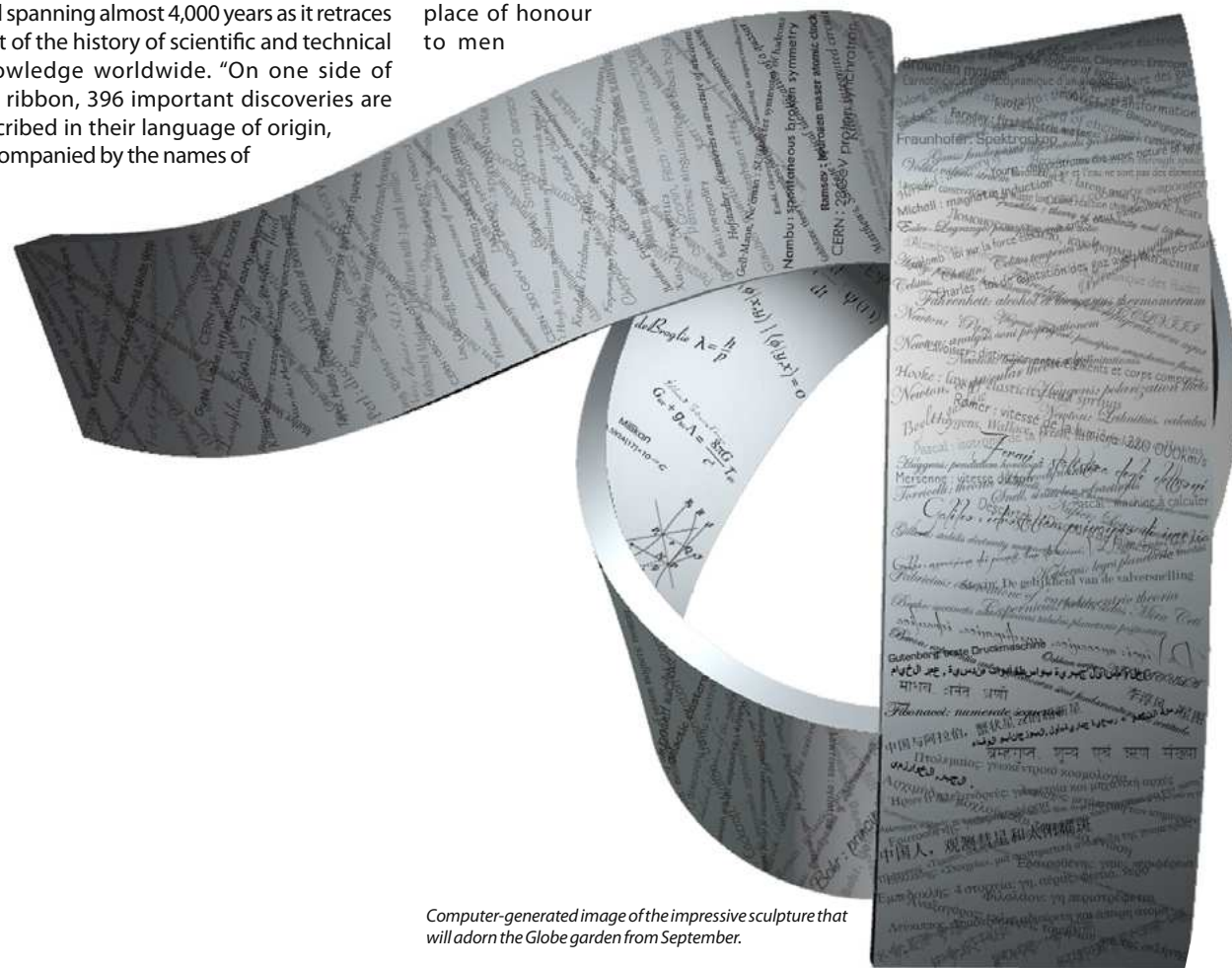
their discoverers," explains Bernard Pellequer, who is in charge of the Globe's programme of events and the realisation of this project. "The story begins with sexagesimal calculations in Mesopotamia, and ends (for the time being) with the discovery of the Higgs boson at CERN. Of course, the exploration continues, which is why the end of the ribbon remains suspended, as if awaiting future events..." Visitors can therefore retrace the history of science step by step and will find some familiar names here and there. On the other side of the ribbon, Hermick wanted to showcase the language of science. From Pythagoras' much-loved theorem to the cryptic Standard Model Lagrangian equation, the mathematical alphabet becomes more complex the more the ribbon unwinds.

The sculpture has numerous symbolic connections to CERN, technologically above all, as the sculptor chose to work with an industrial metal, stainless steel, which had to be laser cut. From the point of view of diversity too: by granting the place of honour to men

and women from around the world who have contributed to science through the ages, Hermick's work reflects the nature of CERN, whose very existence is built on international collaboration. Finally, this sculpture, like the Globe itself, acts as a bridge between science and society. "This work allows visitors to understand a part of the history of science, from its beginnings to today," underlines Pellequer. "This educational role is also one of CERN's fundamental aims."

*The sculpture "Wandering the Immeasurable" will be inaugurated at the end of September. Its conception and construction have been supported by a one-off donation from the Fondation Meyrinoise du Casino and it has been constructed by the Swiss metalwork firm SENN-AG.*

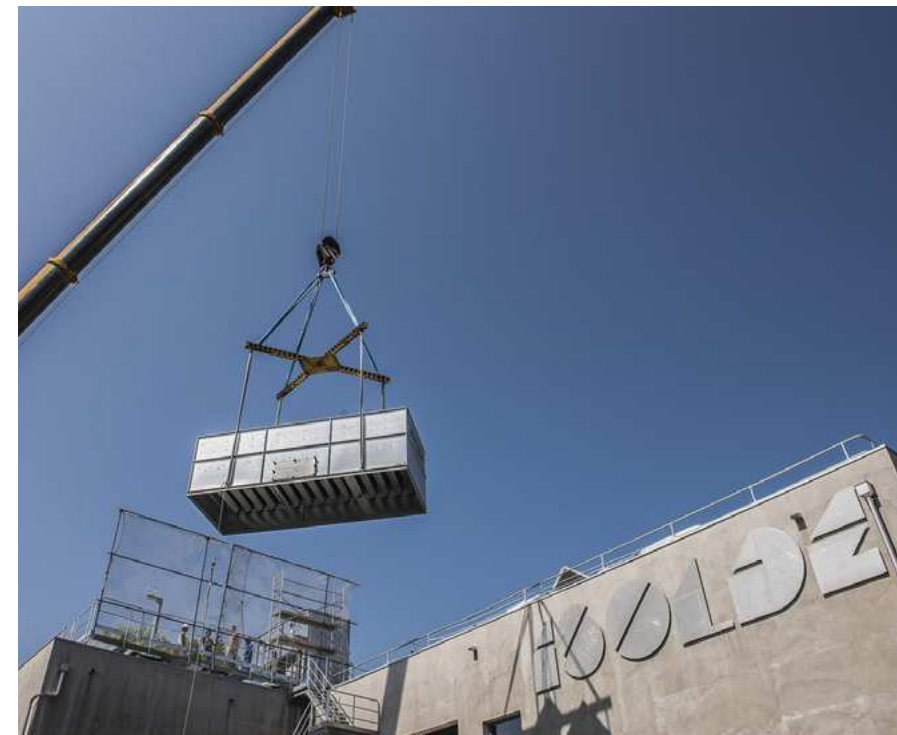
Anaïs Schaeffer



Computer-generated image of the impressive sculpture that will adorn the Globe garden from September.

# TEMPERATURES PLUMMET AT ISOLDE

For several weeks, members of the EN-CV Group assigned to the HIE-ISOLDE project have been working on the installation of a cooling and ventilation system for the new ISOLDE buildings. This work is on track to be completed by the end of the year.



Thanks to the EN-HE Group, the installation of the eight cooling modules on the roof of ISOLDE went perfectly.

The landmark phase of these operations, namely the installation of two cooling towers each comprising four modules on the roof of Building 198, was completed without a hitch. These 2 MW towers produce water cooled to 27°C, which is then used to cool the cryogenic equipment (compressors and cold boxes) and the exchangers for ISOLDE's magnets. The water, which circulates in a closed circuit loop, comes out of the exchangers at 37°C and is then sent back to the cooling towers.

At the same time, two refrigeration units were also installed on the roof of Building 199. Designed to cool water to 14°C for use in the new buildings' ventilation facilities, they will also enable the cooling of more sensitive equipment, such as amplifiers and radiofrequency cavities. For the time being, the teams are working on connecting the pipework and installing the new ventilation equipment.

Anaïs Schaeffer

## THE NAKED BLUNDER

**In the past, we have published many different articles on a multitude of aspects of computer security and on the risk to CERN and to you when you use your computer at CERN or at home. Some were relevant to all of us, others only to a minority. This time, we would like to raise a rather delicate and fortunately rare issue: the consultation of pornographic websites and why it is forbidden at CERN.**

With 10,000 people at CERN of different cultural and professional backgrounds, some working outside traditional working hours and some staying in one of the three CERN hostels, it is a natural fact that behaviours, interests, perceptions and attitudes vary significantly. CERN highly values the diversity of its personnel and users and the interaction between them. In this respect, the CERN campus is comparable to a small city and, as in every small city, some citizens are attracted to pornography.

It is not easy to find a common definition of pornography. It depends on our cultural roots, our values and the environment we live in. Having said that, if you are in doubt as to whether certain webpages or materials contain pornography, it's better to assume that they do and to act accordingly.

The browsing of pornographic websites and the downloading or capture and storage of pornographic videos and photos violates CERN's values and its [Code of Conduct](#) and is prohibited under the CERN [Computing Rules](#). The consultation of "adult" pages is never a professional activity; colleagues who encounter this might be irritated, offended or shocked and feel harassed (see [Operational](#)

[Circular No. 9](#) on harassment). Furthermore, visiting such sites and downloading pornographic material endangers your computer, as the corresponding webpages and files may contain viruses or other malware. It could even violate the copyright of the content owner. Finally, it puts the Organization at risk, as such activities may be monitored by the site owner or third parties (including, potentially, national authorities). It is definitely not good for CERN's reputation if such parties publish the names of visitors to their pages and "CERN" is listed.

For the same reasons, incitement to violence, discrimination or racism, as well as inappropriate or offensive activities, are not tolerated at all. Spare yourself the embarrassment of getting a notification from us asking you to justify (and cease) any prohibited activity or worse, the possibility of disciplinary action. Instead, refrain from the consultation of porn or illegal content while connected to the CERN networks, even if you are using your own device!

Do you want to learn more about computer security incidents and issues at CERN? Follow our [Monthly Report](#).

For further information, please contact the Computer Security Team or check out our website.

*Computer Security Team*



## Take note

### BETWEEN 3 JUNE AND 3 AUGUST, LIMIT YOUR ELECTRICITY CONSUMPTION

**CERN is normally supplied by the French 400 kV RTE/EDF network and has a reduced-power backup supply from the Swiss 130 kV ALPIQ/SIG network.**

During LS1, from 3 June to 3 August 2013, the EN-EL Electrical Engineering Group will be carrying out maintenance and consolidation work on CERN's 400 kV and 66 kV substations.

On 3 June 2013, CERN's power supply will be transferred with no interruption to the Swiss 130 kV network. The power available will technically be limited to 50 MW, a threshold which is compatible with the current level of consumption given that the warming up of the LHC's cryogenic installations is now complete.

During this critical two-month period, CERN's electricity consumption will be closely monitored by operators in the CERN Control Centre (CCC) and must be kept below 50 MW. To avoid any risk of overloading or load-shedding, the Electrical Engineering Group are asking all users to limit their consumption during this period.

Thank you for your cooperation,

*EN-EL Electrical Engineering Group*

### SUMMER SEASON | CAFETERIA CLOSURES

**Please note the following cafeteria closures over the summer season:**

Bldg. 54 closed from 29/07/2013 to 06/09/2013.  
Bldg. 13: closed from 13/07/2013 to 06/09/2013.  
Restaurant No. 2, table service (brasserie and restaurant): closed from 01/08/2013 to 06/09/2013.  
Bldg. 864: closed from 29/07/2013 to 06/09/2013.  
Bldg. 865: closed from 29/07/2013 to 06/09/2013.

### CERN WEBFEST: A WEEKEND FOR SCIENCE ON THE WEB

Are you passionate about science? Do you like communicating that passion to the general public? Then come along to the CERN Summer Student Webfest on the weekend of 3-4 August! It is a grassroots initiative by the summer students, open to all staff and users, and aims to spark new ideas that could innovate the future of web-based education about CERN, the LHC and particle physics.

**CERN Summer Student Webfest**

**2 > 4 August 2013**

**#cernwebfest**

**Main Auditorium Building 500-1-001**

**Are you passionate about science?** Then come along to the Second CERN Summer Student Webfest where new ideas will spring from your mind to innovate the future of web-based education about CERN, the LHC and particle physics.

Note: all CERN users and staff may participate in the webfest.

**Logos:** CERN Summer Student Webfest, citizen cyberscience centre, citizen cyberlab, mozilla, SHUTTLEWORTH FOUNDATION

**Website:** [www.citizencyberscience.net/wiki](http://www.citizencyberscience.net/wiki)



## ADMINISTRATIVE CIRCULAR NO. 30 (REV. 3) - "FINANCIAL BENEFITS ON TAKING UP APPOINTMENT AND ON TERMINATION OF CONTRACT"

Administrative Circular No. 30 (Rev. 3) entitled "Financial benefits on taking up appointment and on termination of contract", approved by the Director-General following discussion at the Standing Concertation Committee meeting of 27 June 2013 and entering into force on 1 August 2013, is available on the intranet site of the Human Resources Department: <https://hr-docs.web.cern.ch/hr-docs/admincirc/adminirc.asp>

Administrative Circular No. 30 (Rev. 3) is applicable to all members of the personnel.

It cancels and replaces Administrative Circular No. 30 (Rev. 2/Corr.) entitled "Financial benefits on taking up appointment and on termination of contract" of September 2009.

This circular was revised in order to implement the modifications introduced into the Staff Rules and Regulations in January 2013 relating to the introduction of the status of Associate Member States and new categories of associated members of the personnel.

In particular, the notion of "Member State" in Annexe II ("Volumes applicable to removal expenses") of the circular was broadened to "Member State or Associate Member State". The circular also now refers to "Scientific Associates" and "Guest Professors" instead of "Paid Associates".

Annex I ("Removal procedure") was modified in order to identify and clarify the obligations of the parties involved in a removal and to introduce a tripartite contract to be signed by CERN, the member of the personnel concerned and the removal company.

HR Department  
Head Office

## ADMINISTRATIVE CIRCULARS NO. 12 A (REV. 2) - "EDUCATION FEES" AND NO. 12 B (REV. 2) - "EDUCATION FEES AND LANGUAGE COURSES"

Administrative Circulars No. 12 A (Rev. 2) entitled "Education fees" and No. 12 B (Rev. 2) entitled "Education fees and language courses", approved by the Director-General following discussion at the Standing Concertation Committee meeting of 27 June 2013 and entering into force on 1 August 2013, are available on the intranet site of the Human Resources Department: <https://hr-docs.web.cern.ch/hr-docs/admincirc/adminirc.asp>

Administrative Circular No. 12 A (Rev. 2) is applicable to Staff Members (except former "Local Staff Members") recruited before 1st January 2007. Administrative Circular No. 12 B (Rev. 2) is applicable to Staff Members recruited on or after 1st January 2007, to Fellows, to Scientific Associates, to Guest Professors and to former "Local Staff" recruited before 1st January 2007.

They cancel and replace Administrative Circulars No. 12 A (Rev. 1/Corr.) entitled "Education fees" and No. 12 B (Rev. 1/Corr.) entitled "Education fees and language courses" of December 2009.

These circulars were revised in order to implement the modifications introduced into the Staff Rules and Regulations in January 2013 relating to the introduction of the status of Associate Member State and new categories of associated members of the personnel. In particular, it was necessary to replace the notion of "European territory" of one of the Organization's Member States" by the notion of "territory of one of the Organization's Member or Associate Member States".

Furthermore, Administrative Circular No. 12 B (Rev.2) now refers to "Scientific Associates" and "Guest Professors" instead of "Paid Associates".

Finally, aspects of payment of meal expenses (Administrative Circular No. 12 A (Rev.2)) and accommodation fees (Administrative Circular No.12 A and B (Rev. 2)) are specified in more detail.

HR Department  
Head Office

## JOINT ADVISORY APPEALS BOARD

The Joint Advisory Appeals Board has examined the internal appeal lodged by a former member of the personnel, a beneficiary of the CERN Pension Fund, against the calculation of his pension in the framework of the Progressive Retirement Programme.

The person concerned has not objected to the report of the Board and the final decision of the Director-General being brought to the attention of the members of the personnel.

In application of Article R VI 1.18 of the Staff Regulations, these documents will therefore be available from 26 July to 11 August 2013 at the following link : <http://indico.cern.ch/conferenceDisplay.py?confId=264984>

HR Department  
Head Office

## ANNUAL INFORMATION MEETING OF THE PENSION FUND

All members and beneficiaries of the Pension Fund are invited to attend the

Annual Information Meeting to be held in the CERN Council Chamber on Wednesday, 11 September 2013 from 10.00 a.m. to 12.00 midday.

Copies of the 2012 Pension Fund Financial Statements can be obtained from departmental secretariats and will also be available at the meeting.

## WEDNESDAY JULY 31, 2013

- 09:15 Summer Student Lecture Programme Course **LHC Upgrade (3/4)** Main Auditorium
- 10:15 Summer Student Lecture Programme Course **Search for Beyond the SM Physics at Hadron Colliders (3/3)** Main Auditorium
- 11:15 Summer Student Lecture Programme Course **Medical Physics (2/2)** Main Auditorium
- 12:00 Summer Student Lecture Programme General **Discussion Session** Main Auditorium
- 14:00 TH Theoretical Seminar **Non-Anbelian strings in Yang-Mills theories and beyond: 2D - 4D correspondence, spin-orbit interaction generating unexpected Goldstone modes, and all that.** TH Conference Room
- 15:00 ISOLDE Seminar **Collinear Laser Spectroscopy of Potassium: Nuclear Charge Radii beyond N=28 26-1-022**

## THURSDAY AUGUST 01, 2013

- 08:30 Induction Sessions **INDUCTION PROGRAMME - 1st Part**
- 09:15 Summer Student Lecture Programme Course **LHC Upgrade (4/4)** Main Auditorium
- 10:15 Summer Student Lecture Programme Course **Cosmology (1/3)** Main Auditorium
- 11:00 Collider Cross Talk **Swiss National Day** (No cross talk)
- 11:15 Summer Student Lecture Programme Course **Flavour and CPV (1/4)** Main Auditorium
- 12:00 Summer Student Lecture Programme General **Discussion Session** Main Auditorium
- 14:30 ISOLDE Seminar **1st experimental determination of ionization potential of Lawrencium (Z=103) by a surface ionization technique.** 26-1-022

## FRIDAY AUGUST 02, 2013

- 09:15 Summer Student Lecture Programme Course **Cosmology (2/3)** Main Auditorium
- 10:15 Summer Student Lecture Programme Course **Cosmology (3/3)** Main Auditorium
- 11:15 Summer Student Lecture Programme Course **Flavour and CPV (2/4)** Main Auditorium
- 12:00 Summer Student Lecture Programme General **Discussion Session** Main Auditorium

## MONDAY AUGUST 05, 2013

- 09:15 Summer Student Lecture Programme Course **Monte Carlo (1/2)** Main Auditorium
- 10:15 Summer Student Lecture Programme Course **Flavour and CPV (3/4)** Main Auditorium
- 11:15 Summer Student Lecture Programme Course **Flavour and CPV (4/4)** Main Auditorium
- 12:00 Summer Student Lecture Programme General **Discussion Session** Main Auditorium

## TUESDAY AUGUST 06, 2013

- 09:15 Summer Student Lecture Programme Course **Monte Carlo (2/2)** Main Auditorium
- 10:15 Summer Student Lecture Programme Course **Astroparticle Physics (1/3)** Main Auditorium
- 11:15 Summer Student Lecture Programme Course **Antimatter (1/3)** Main Auditorium
- 12:00 Summer Student Lecture Programme General **Discussion Session** Main Auditorium
- 20:00 HUPP Group - Turkish students meetings **Next Hupp Meeting**

## WEDNESDAY AUGUST 07, 2013

- 09:15 Summer Student Lecture Programme Seminar **Detector Simulation (1/1)** Main Auditorium
- 10:15 Summer Student Lecture Programme Course **Astroparticle Physics (2/3)** Main Auditorium
- 11:00 Computing Seminar **Towards reproducibility of research by reuse of IT best practices** IT Amphitheatre
- 11:15 Summer Student Lecture Programme Course **Antimatter (2/3)** Main Auditorium
- 12:00 Summer Student Lecture Programme General **Discussion Session** Main Auditorium
- 14:00 TH Theoretical Seminar **A modified naturalness principle and its experimental tests** TH Conference Room