

LIFE IS GOOD AT 13 TEV

The second run of the LHC will start in 2015, when the beams of protons will reach 6.5 TeV of energy and the collisions will happen at 13 TeV. What will physicists look for after the discovery of the Higgs boson?



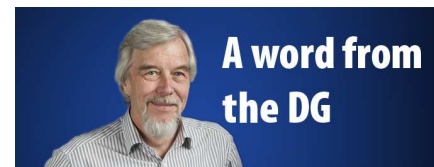
Life beyond the discovery of the Higgs boson is full of exciting possibilities. "When we were looking for the Higgs boson, we knew it would be difficult to discover but we also knew where to search and how," says Ignatios Antoniadis, Head of the Theory Unit of CERN's Physics Department. "The electroweak precision tests of LEP and other experiments had already suggested that the Higgs boson should exist and should be light, not very far from the LEP boundary. Now that we have completed the picture of the Standard Model, we are entering a totally new territory."

The new territory is what scientists call "beyond the Standard Model" physics. It is populated by open-ended questions, including: What is Dark Matter made of? Why is the universe made of just matter and no anti-matter? Are there any new scalar bosons similar to the Higgs? How can the difference in masses and mixings between

quarks and leptons of different generations be explained? Does Supersymmetry exist in nature? Does the graviton exist and why is gravity so weak compared to the other known fundamental interactions? Are we living in a world with 10 or 11 dimensions?

These questions are extremely difficult to address, both from an experimental and a theoretical point of view. However, physicists do have an ace in the hole. "Although each of these phenomena could be interpreted with a variety of theoretical models, many of them have one thing in common: if they exist in nature, their signature in our detectors will be linked to what we call 'missing energy'," says Antoniadis.

"Missing energy" is what happens when there is a discrepancy between the energy at the beginning and at the end of a given process. "In the Standard Model, this discrepancy is



INNOVATING IN KNOWLEDGE TRANSFER

When you ask people whether investment in basic science is worth it, the answer you get is an overwhelming 'yes'... followed by a pause, and then a question: 'what's the immediate benefit?' Of course we have answers.

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A word from the DG

INNOVATING IN KNOWLEDGE TRANSFER

Basic research at CERN expands the pool of human knowledge. It inspires the young, and provides an important impetus to scientific and technical education. Applications of CERN technology are to be found in many domains, and the results of basic science provide the seeds for applied research. All this is clear and well established, but we can always do more, and that's why I was particularly impressed with an event that took place at CERN last week.

Education and innovation are core missions for CERN, and they came together last week when 17 students from universities in Finland, Greece and Italy presented the results of their five-month challenge-based innovation course (CBI). Developed

by CERN along with Aalto University, the University of Modena and Reggio Emilia and the National Technical University of Athens, CBI aims to bring a new element to learning while actively seeking innovative applications of CERN knowledge. On the evidence of last week's presentations, it's a very effective approach.

Two projects were presented, both based on work being carried out in EU-funded Marie Curie initial training networks, one looking at virtual and augmented reality approaches to maintenance in extreme environments, the other at instrumentation for particle detection. It's a relatively easy stretch to imagine how techniques developed for maintenance of the ATLAS detector could be deployed, say,

in space. But in the form of a learning tool for autistic children? Yet that's exactly what happened. Similarly, particle detection techniques developed at CERN have wide applications in medicine for example. But who would have thought that students working with the Marie Curie researchers might be inspired to develop a tool to provide an audio recording of meetings, with all pauses, ums and ahs removed.

What happened last week was a pilot, but it's something I think we'll be seeing more of as we seek ever more innovative ways to ensure that the inspired thinking that happens at CERN finds application beyond the laboratory walls.

Rolf Heuer

(Continued from page 1)

LIFE IS GOOD AT 13 TEV

associated with neutrinos, those particles that escape from the detector without leaving any tracks," explains Antoniadis. "However, in the physics beyond the Standard Model, the missing energy could also be the signature of many undiscovered particles, including the Weakly Interacting Massive Particles (WIMP) that are very strong candidates for Dark Matter. If WIMPs exist, the collisions at 13 TeV may reveal them and this will be another huge breakthrough."

Since no Supersymmetric theoretical model has yet to be ruled out, the high-energy collisions might also eventually unveil the Supersymmetric partners, at least the lighter ones. The "missing energy" could also account for the graviton escaping in extra-dimensions or for other exotic particles. "We have a variety of possibilities and this implies that we will have to abandon the old paradigm of dealing with experimental data, while having in mind a defined theoretical model that shows us where to look and how," says Antoniadis. "We'll have to look at data in a completely unbiased and model-independent way. Thanks to recent studies we now know the Standard Model so well that, if we observe an unknown source of missing energy, we can be confident that this is due to new physics."

Additional scalar bosons – relatives of the Higgs boson – complete the plethora of

opportunities that will open up with the second run of the LHC. "Theory does not constrain the total number of scalar fields that might exist in Nature," concludes Antoniadis. "Finding the first one required 40 years of technological progress and fundamental research. Who knows? Maybe the next ones do exist and will be easier to find!"

Antonella Del Rosso

LS1 REPORT: AS ONE DOOR CLOSES, ANOTHER OPENS

Across the PS complex - from Linac 2 to TT2 to the accelerator itself - teams have seen the closing of their retro-1980s entryways, and the opening of state-of-the-art access points in compliance with the highest nuclear safety standards.



One of the new PS access points.

The new PS access system provides more than just doors. Designed to protect against the radiation hazards and other risks caused by machine operation, the access system will monitor who goes into each zone, check whether or not the individual has the appropriate permissions to be entering, and even stop the beam if access is attempted during beam mode. "These new points provide automatic means to check that the right people are going in and in safe circumstances," says Pierre Ninin, project leader of the PS complex safety system. "All of these checks were previously done manually, so the burden on operators has been significantly reduced."

The 19 new access points were successfully installed and deployed over the past year across 15 accelerator areas of the Meyrin site, covering the LHC injectors but also the AD, ISOLDE, the East Area, nTof and the EAR1 and EAR2 experiments. "Now we are performing hardware tests on the safety elements for the beam, which are responsible for stopping the beam on a physical level in the event of access to a zone," explains Pierre Ninin. "We are testing each safety chain, from sensors to actuators (which are Beam or Machine Important Safety Elements), as well as the Human Computer Interfaces that allow remote operation from the CCC. This commissioning requires close collaboration with teams from each machine."

Although similar in many respects to the LHC access points, these new entryways incorporate feedback from LHC teams to improve the performance. "One major issue they highlighted was the maintenance of the access point itself, which requires the

ability to access it from both sides," says E. Sanchez-Corral, deputy project leader. "In the LHC, the access points only allow this access when there is no beam! So, maintenance can only be carried out during shutdowns and, meanwhile, no one else can access the tunnel."

The team have added a new door just upstream of each point, which can take over the function of the access point while maintenance is underway. It also keeps the interlock chain intact. "It's a simple addition, but it's one that will give teams days of extra access time during upcoming shutdowns," says E. Sanchez-Corral. But other teams need not worry, she adds: "These maintenance doors will also be installed at the LHC."



Working with HSE-RP, buffer zones were installed near each access point for temporary storage of radiological material. Each is equipped with the new TREC (Traceability of Radioactive Equipment at CERN) system.

A global test of all 15 zones - incorporating the access points and hardware security - will be carried out the first week of April. Immediately after, the accelerator hardware test will be carried out. Finally, the system will be validated in the so-called "DSO test" just before beam operation.

Meanwhile, elsewhere

At the LHC, the SMACC project is progressing steadily: the W sleeves have been closed in four sectors, with closure in a fifth sector currently in progress. As for the electrical feedboxes (DFBA), the teams have already consolidated 9 out of the 16 boxes concerned. This work should be finished between now and the end of May. Congratulations to the SMACC teams, who have just closed their 1000th interconnection!

The R2E project is in progress at Points 5 and 7 (where the cable pulling phase is now complete) as well as at Point 4 (where cable pulling is just starting). Point 1 will soon be tested for systems reactivation and Point 8 is completely finished.

At Point 7, the new partitions designed to contain the air in the collimator area have now been installed. The automatic doors to allow access to these areas will soon be tested.

The replacement campaign for irradiated cables in Building BA1 is almost complete: 95% of cable pulling is complete, 90% of connections have been made and 60% of tests have been carried out, which is all perfectly in line with the schedule.

At the PS Booster and the PS, the teams are busy preparing for the hardware tests, which will begin on 28 March and should take six weeks.

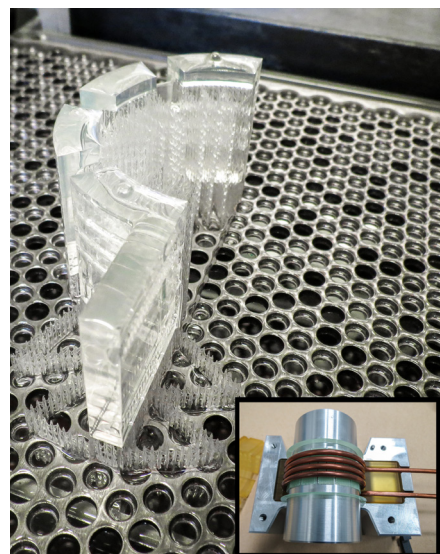
The Low Energy Ion Ring (LEIR) has now been reconfigured to its nominal vacuum condition. The final pieces of equipment are in the process of being connected.

At the Antiproton Decelerator (AD), after several months in the CERN workshops, the BHN06 dipole and two injection kickers have been reinstalled in the machine. The new beam monitor has also just been installed and the bakeout campaign is in full swing.

Katarina Anthony & Anaïs Schaeffer

MAKING A GOOD IMPRESSION

CERN's Polymers Laboratory (part of the TE-MSC-MDT Section) was created in the 1960s and is still working on many complex technical challenges today. Thanks to a new 3D prototyping printer, the Laboratory can now produce functional parts for use directly in our accelerators.



This part, made from transparent resin and produced using the new 3D prototyping printer, will be used to hold and electrically insulate a copper RF antenna as shown below. The fine transparent "fence" surrounding the part is a manufacturing support. This is produced at the same time as the part and supports it during printing.

The Polymers Laboratory is undoubtedly one of the most versatile facilities at CERN. Whether you need an electrically insulated part, supports for scintillating crystals, winding separators or fibre optic distributors, resin is probably one of the solutions. Several different resins, based on epoxy, silicone or polyurethane, are available at the Polymers Laboratory, with various characteristics responding to different needs: highly reliable bonding, moulding, electrical insulation, or resistance to cryogenic temperatures or radiation.

And now the Laboratory can call upon the magic of 3D printing, so almost anything is possible. The Laboratory's recently-acquired 3D prototyping printer allows the team to respond to almost 70% of requests for this type of technology. The printer works through the polymerisation of a liquid resin using a laser (see box). At CERN, three resins are currently available for this type of printing: white, which is very flexible and low-cost; transparent, which is more resistant (see first photo); and blue, a composite resin containing ceramic particles, which is particularly resistant to extreme temperatures and radiation but more expensive (see second photo). Polymerised layer by layer according to a digital 3D model created in advance using dedicated software, the resin is formed into the desired shapes

with a precision of up to 0.01 mm (depending on the polymer used and the time taken). "The main advantage of this machine is that it allows us to manufacture functional parts with strict mechanical properties," says Marco Goncalves Lopes, a materials engineer in the Polymers Laboratory, who is attached to the Portuguese Science and Technology Foundation. "The Laboratory also has another 3D printer, which works by bonding fine layers of polymer powder. This is used to study the shape of certain prototypes, but is not suitable for the production of functional parts."

Although the Polymers Laboratory is not intended for large-scale production, every effort is made to respond to very specific needs. "In some cases, we work on the development of specific techniques with industry or other laboratories," explains Paolo Fessia, who was responsible for the purchase of the new 3D prototyping printer. "Generally we create prototypes in-house, as we did for example for the spacers designed for winding tests carried out in parallel at CERN and Fermilab (see second photo) as part of a partnership for the HL-LHC project. Of course, our core business is the urgent production of parts or the repair of certain machines." Several CERN Departments (particularly PH, EN and TE) and Groups work with the Polymers Laboratory on a daily basis to resolve increasingly complex challenges.



This component was produced for a winding test and uses the most resistant resin currently available in the Polymers Laboratory.

Photopolymerisation

This prototyping process was developed in the 1980s and relies on the fact that certain resins polymerise, i.e. they transform into solid polymers under the influence of light and heat. The resin used for 3D prototype printing includes a photoinitiator, which initiates the polymerisation process under the influence of light from the laser.

Discover CERN's 3D printing in this video:



Anais Schaeffer

THE CERN "CONCURSO" SPREADS PARTICLE PHYSICS ALL OVER SPAIN

Launched in December last year by CERN in collaboration with the Prince of Asturias Foundation, the competition involved hundreds of young and very young students in Spain. The six winners will visit CERN in April.

"This initiative was intended to raise awareness about particle physics, CERN and science in general," says CERN's Isabel Béjar Alonso, a member of the Spanish physics community and one of the driving forces behind the initiative. "The feedback we have received is extremely positive and we are very happy that the competition was so successful!"

Organised using a portion of the prize-money associated with the prestigious award that CERN received in 2013 from the Prince of Asturias Foundation, the contest succeeded in the challenge of inspiring a large number of schools, teachers and pupils (see box). "We received hundreds of contributions from all over Spain and for each age range, in the form of drawings, photos, videos and text," says Isabel. "I was amazed by the enthusiasm that young kids showed throughout, from the launch to the voting, as well as the large amounts of spontaneous feedback received via the CERN-Fundacion-Principe-de-asturias-contest@cern.ch e-mail address."

Teachers have been particularly grateful to the organisers of the contest because this was a concrete opportunity for them to bring these topics into their classroom. "We want to keep the momentum generated by the initiative as high as possible," continues Isabel, "and offer schools that had a finalist the opportunity to host a talk by a scientist from CERN or CPAN (Centro Nacional de Física

de Partículas, Astropartículas y Nuclear, Spain). The other schools may send us their requests and we will try to accommodate them."

The contest was also much appreciated by parents, who actively supported their children in their participation. "Parents really wanted their kids to win the competition," confirms Isabel. "They were spreading the information and invited their relatives to vote for their child's contribution!"

The six winners (see box for details), treated like stars in their schools and local communities, will now be offered a trip to CERN. Given the success of the initiative, the organisers are evaluating the possibility of organising it again next year and perhaps also involving Latin American countries.

"Concurso" facts and figures

- 1,400 entries, from 49 of the 50 Spanish provinces.
- More than 450 teachers and 400 schools.
- More than 200,000 pages viewed since the start of the contest from all around the world.
- Some entries have been viewed more than 5000 times.
- The event was covered by TV, radio and press.

The Winners' Podium

The competition was open to pupils aged 6 to 18, broken down into the following categories: *Primaria*, ESO and *Bachillerato*. Each contribution was submitted in one of two formats: Drawing/Photo/Video and/or Story/News/Article. The popular jury and the expert committee awarded prizes to the following works:

Drawing/Photo/Video

- Sofía Isabella Villamizar Villegas (7 years old), *Colegio Público Gesta I*, Oviedo
- Ana Villanueva Ruiz de Temiño (15 years old), *Colegio Sansueña*, Zaragoza
- Anna Salut Esteve Domínguez (17 years old), *IES Bernat Guinovart*, Algemesi, Valencia

Story/News/Article

- Rocío Lahuerta Blanco (9 years old), *CEIP Puente de Simancas*, Simancas, Valladolid
- Pedro Villanueva García Gómez (15 years old), *Colegio Sagrado Corazón*, Zaragoza
- Quilaccori García López (16 years old), *IES "Lancia"*, León

Antonella Del Rosso

PLAT DU JOUR – SHORT FILMS!

This week, take a break from the cafeteria and have a ciné-lunch at the Globe!



How about if, for a change, you forgot your lunch meeting and went to the movies with

your colleagues (or that person that you always wanted to ask out) right here on the CERN site?

CERN is hosting the next CineGlobe International Film Festival from 18 to 23 March in the Globe of Science and Innovation, with the theme "Beyond the Frontier". The 4th annual festival will see 66 short films "inspired by science" in competition, including fiction films as well as documentaries.

From Tuesday 18 to Friday 21, special lunch sessions take place from 12.30 p.m. to 1.30 p.m. Food is available for purchase at the "Café Cinéma" tent next to the Globe.

Special evenings:

While the short film screenings are the heart of the festival, each year CineGlobe also organises compelling special events every night, from feature films to special musical performances:

- **Tuesday 18 March:** The Swiss premiere of the acclaimed documentary film *Particle Fever*. Presented by BBC Storyville with Fabiola Gianotti and director Mark Levinson in attendance;
- **Wednesday 19 March:** The result of the **"Story Matter" Hackathon**, the first-ever international summit to create **new media stories with technology and science**, an event organised in collaboration with the renowned Tribeca Film Institute in New York;
- **Thursday 20 March:** A panel of Internet privacy and security experts will discuss the question: how close are we to Orwell's nightmare in this day and age? The British band Teeth of the Sea will then perform live their original,

- CineGlobe-commissioned, audio-visual musical interpretation of George Orwell's 1984, 30 years after the legendary date;
- **Friday 21 March:** A collection of short films on Mapping Art accompanied by a unique interactive dance performance by CENC with LED installations, presented by the Geneva Mapping Festival;
- **All weekend:** screenings of short films and a special night on Saturday evening dedicated to the CineGlobe awards ceremony.

The films in competition are screened at lunchtimes and in the early evenings from Tuesday to Friday and all day at the weekend. Entry to all sessions is free. Note that special

nights require a reservation, via www.cineglobe.ch.

All programmes are presented in French and English. The full schedule is available on the Festival's website.

CineGlobe is made possible by the help of many volunteers. If you'd like to join us, please go to <http://cineglobe.ch/contact/volunteers> and we will be happy to welcome you to the team!

Claudia Marcelloni

MEMOIRS OF A CERN PIONEER

François de Rose, the last surviving founding father of CERN, publishes his memoirs during the year of CERN's 60th anniversary.



François de Rose in the ATLAS cavern during his visit to CERN in 2013.

Sixty years ago, a handful of European scientists saw their dream of cooperation come true. Thanks to their efforts, nations which had been torn apart during the war came together to create the first European scientific organisation. Having lived through bombing, destruction, death and genocide, they regarded European integration as vital to the survival of their respective nations. Their goal was for their domain to participate in the general efforts towards reconstruction and peace. They successfully rose to the challenge

and CERN became one of the world's most prestigious research laboratories.

Among these early activists was a diplomat, François de Rose. At the ripe old age of 103, the former French ambassador is the last surviving founding father of CERN. As chance would have it, he is publishing his memoirs during the year in which CERN is celebrating its 60th anniversary. A significant part of these memoirs, entitled *"Un diplomate dans le siècle"*, is devoted to CERN, which he proudly

describes as the most beautiful feather in his ambassador's cap.

With a twist on the words of Charles Aznavour in *"La Bohème"*, he recounts with his typical humour *"un temps que les moins de cent ans ne peuvent pas connaître"* (a time that those who are not centenarians cannot know about), a time when he rubbed shoulders with the likes of Niels Bohr, Pierre Auger and Robert Oppenheimer, the great names of particle physics. He relates, in particular, his meeting with Robert Oppenheimer and the French physicists who convinced him to embrace the CERN cause.

In addition to these chapters on CERN, the book contains a bountiful supply of anecdotes concerning twentieth century diplomacy. From his world of speeches and receptions, he brings us encounters, happy – and not so happy – hazards of fate, sound bites and the little stories that all combine to make up history.

We are delighted that his memoirs, originally written for his family, have finally been published for us all to savour and enjoy.

The book by François de Rose is available in the CERN Library.

Corinne Pralavorio

Behind the scenes of GS

A PROFESSIONAL FIRE AND RESCUE SERVICE LIKE NO OTHER

Meet the professionals at the top of their game working hard for the well-being of the CERN community. Meet the CERN Fire Brigade.



The firefighters of CERN's Fire and Rescue Service.

Highly-qualified professional firefighters
CERN's Fire and Rescue Service (FRS, GS-FB Group) currently consists of 58 professionals. These are highly sought-after positions: for just a handful of vacancies, hundreds of applications are submitted from all over Europe. And bear in mind that only professional firefighters with at least five years' experience at a centre with high levels of operational activity may apply... and they must also have a good command of at least one of the Organization's two official languages.

Once the pre-selection process is over, around twenty candidates progress to the next stage, where they are really put through their paces with language tests, theory exams and exercises on real fires. "For the practical part, all candidates are evaluated on their responses to a real fire," explains Yann Lechevin, project leader in the FRS. "So for 20 candidates, we need 20 fires... I'll let you imagine the logistical challenges this poses for just a few vacancies!"

Once the selection process is over, the lucky few then join the ranks of the CERN Fire Brigade, embarking on seven weeks of technical training, generally followed by a month of intensive linguistic immersion, all intended to prepare them for the unusual environment of CERN. "CERN is a very distinctive environment, particularly in terms of its layout," says Catherine Laverrière, quality manager in the FRS. "We are asked to intervene in a huge variety of locations: tunnels, experiment areas... even the restaurants and hostels. In addition, we have

to deal with a variety of specific technological hazards. In this context, the training required for a professional firefighter to become autonomous takes at least two years."

In 2010, the Fire Brigade welcomed its first female firefighter, quickly followed by two more. "We hope that more women will join our ranks soon," adds Lechevin. "Of course they are subject to the same selection criteria as their male colleagues, which tells you a lot about their abilities." In April, five new (male) recruits will join the Fire Brigade to replace firefighters who have reached the ends of their contracts. Six more will be selected in May to join in autumn 2014.

A measured response

Last year, the CERN firefighters were involved in more than 1800 interventions. Recently they were called to the CERN Computer Centre, where they quickly managed to get a fire under control. "We were on the scene within three minutes," recalls Patrick Berlinghi, who was on duty when the fire broke out. "If we had arrived two minutes later, everything would have been far more complicated. The thing about the Computer Centre is that we can never switch the power off... which would seem strange to most external firefighters given the usual safety rules!" And therein lies the unique nature of CERN: nothing is ever run-of-the-mill. A few weeks ago, the Fire Brigade was alerted to a fire that had started inside a detector. Most firefighters would have drenched the affected area without hesitation... which wouldn't have impressed the Organization's scientific community much. But the CERN

Firefighters opted to extinguish the fire by smothering it. "That's also what makes our job so interesting," concludes Yann Lechevin. "We work closely with our colleagues in other departments, including those responsible for the experiments and members of the Operations Group (BE-OP), to find the best solutions together. There's no such thing as an ordinary intervention at CERN!"

TETRA triumphs at CERN

Originating in a project launched and developed by the CERN Fire and Rescue Service (see the article in *Bulletin 51-03/2013*) with extensive support from the IT and PH Departments, the TETRA digital radio communication system is now an integral part of the equipment used by CERN's firefighters. These radios are also used by the Organization's safety officers and members of the LHC experiments and have proved their worth many times, particularly thanks to the D.A.T.I. application (*dispositif d'alarme pour travailleur isolé* – alarm device for isolated workers), which sends a signal to the Fire Brigade control room whenever someone is in a horizontal position for a long time or whenever the device detects a significant impact, and which in 2013 allowed them to help someone who had lost consciousness.

On the back of this success, CERN's TETRA system recently convinced a panel of experts of its relevance and reliability: on 21 February, *Tetra Today* magazine and the *TETRA Critical Communications Association* awarded CERN prizes in two categories, against first-class competition from all over the world: "Best use of TETRA for public safety" and "Outstanding single-site TETRA installation".

Anais Schaeffer

Computer Security

WHEN A PERSON LEAVES - ACCESS RIGHTS REMAIN!

We have been contacted recently by an embarrassed project manager who just figured out that a student who left at the end of 2013 still had access rights to read the whole project folder in February 2014: "How can that be?! In any other company, access rights would be purged at the same time as an employment contract terminates." Not so at CERN.

CERN has always been an open site with an open community. Physical access to the site is lightweight and you just need to have your CERN access card at hand. Further restrictions have only been put in place where safety or security really require them, and CERN does not require you to keep your access card on display. The same holds for the digital world. Once registered at CERN - either by contract, via your experiment or through the Users' office - you own a computing account that provides you with access to a wide variety of computing services. For example, last year 9,730 students/technicians/engineers/researchers/staff joined CERN. A similarly large number of people left CERN as their contract with CERN or with their university ended. Eventually, a fraction of those people come back to CERN with a follow-up contract from CERN or their university, or having enlisted with another university. This is not unusual as students often graduate with a MSc degree in one place and continue with a PhD on their favourite research topic at another university. Had we taken the harsh approach adopted

by "normal" companies, we would have immediately closed their computing account, deleted all their data and wished them "Good Bye", only to find that they re-join CERN a few weeks later. Not exactly optimal. Therefore, CERN has decided to grant a two month-long grace period: CERN computing accounts will be kept active for two months after the end of the affiliation with CERN. If a person comes back, nothing will have changed for him/her in CERN's digital world. If not, the account will be automatically blocked after this grace period and all data, e-mails, folders, etc. will be purged after another four months.

The project manager mentioned previously discovered this the hard way. He was worried, as his project dealt with sensitive data that needed to be kept well protected and accessible only on a need-to-know basis. People should not feel tempted to misuse access rights - not to mention the potential of data leakage or misuse... Thus, if you want to be on the safe side and protect your data, service and folders properly, keep this article

in mind. Usually people are not malicious and, if they were, they would have already had time to express that. Still, if required, you can ask us at **Computer.Security@cern.ch** to block an account prematurely, provided a written justification from the corresponding supervisor, hierarchy or team leader is given.

For further information on the current CERN account policy: <https://security.web.cern.ch/security/rules/en/accounts.shtml>

Check out our website for further information, answers to your questions and help, or e-mail **Computer.Security@cern.ch**.

If you want to learn more about computer security incidents and issues at CERN, just follow our **Monthly Report**.

Computer Security Team

Ombuds' Corner

HOW MUCH DOES A SMILE COST?

Smiling comes easily when we are among friends. Similarly, one could expect that it should not be so hard to smile – or in some way, acknowledge – our colleagues in the workplace. Unfortunately, the reality is sometimes very different and interactions – or the lack of them – between colleagues can sometimes be perceived as impolite or even rude behaviour.

"Good manners" are what we learn from infancy: guidelines of how to interact with each other, initially with parents, then at school, and finally at work. Like many other organisations and companies, CERN has its own guidelines or Code of Conduct, which "describes the basic standards of behaviour that we must all set ourselves and are entitled to expect from our colleagues in the workplace."

Many of the "basic standards" in the Code of Conduct would appear to be self-evident: ensure that we credit others for their contribution; maintain a professional environment characterised by good working relations and an atmosphere of tolerance and mutual respect; abstain from and actively discourage all forms of harassment as well as verbal, non-verbal, written or physical abuse...

All these standards pre-suppose an underlying acknowledgement of the intrinsic

value of all individuals and their right to be treated with respect, regardless of their position or status in the Organization.

As straightforward and obvious as this may sound on paper, it seems that there are still occasions in practice where we fall short of this basic right by failing to acknowledge certain colleagues, particularly those who are in service or support roles, ignoring them when they are carrying out routine or repair tasks for us and often just walking past them in the corridors without even a simple nod of recognition... or a smile.

Of course, smiling has a cultural context, and we may not all use this form of expression, nor react to it, in the same way. What we do all share, however, is a common appreciation of being acknowledged and respected for who we are and what we do, together with a responsibility to recognise the impact of our own behaviour on others.

Acknowledging others and maintaining friendly and respectful relationships at work has led over the years to the kind of professional collaboration of which we are proud, where every contribution counts and everyone has a true sense of belonging to the Organization.

Given the many challenges that we have to face at work every day, remembering to acknowledge others might turn out to be yet an additional one. However, even if at the beginning it comes at some (emotional) cost, it may turn out to be a very valuable investment. How much does a smile cost? Try it out...

« Life be not so short but that there is always time for courtesy.»
Ralph Waldo Emerson

Sudeshna Datta-Cockerill

Seminars

THURSDAY MARCH 20, 2014

- 11:00 TH Cosmo Coffee **EPFL/CERN/UNIGE Discussion Sessions**
- 11:00 Collider Cross Talk **Theoretical uncertainties on the W mass measurement** TH common room
- 14:00 TH BSM Forum **TBA** TH common room
- 14:00 TH Exceptional Seminar **TBA** TH Conference Room

FRIDAY MARCH 21, 2014

- 08:30 Induction Sessions **INDUCTION PROGRAMME - 2nd Part** Council Chamber
- 14:00 Computing Seminar

Understanding Online Attacks IT Amphitheatre

- 14:00 Particle and Astro-Particle Physics Seminars **Constraining neutron star properties with QCD** TH Conference Room

TUESDAY MARCH 25, 2014

- 14:00 TH String Theory Seminar **TBA** TH Conference room

SUNDAY FEBRUARY 23, 2014

- 07:00 HUPP Group - Turkish students meetings **Hupp Geri Donusum**

TUESDAY MARCH 25, 2014

- 14:00 TH String Theory Seminar **TBA** TH Conference room

WEDNESDAY MARCH 26, 2014

- 14:00 TH Theoretical Seminar **TBA**
- Thursday March 27, 2014
- 16:30 CERN Colloquium **Thorium: An energy source for the world of tomorrow ?** Main Auditorium

TUESDAY APRIL 01, 2014

- 14:00 TH String Theory Seminar **TBA** TH Conference Room

PATRICK DURAND (1953 – 2014)

Patrick arrived at CERN in January 1994 on a temporary contract in the Finance Department (previously FI), where he worked on the packaging of items for the Meyrin self-service stores (located at the time in Building 113) so that goods could be identified using barcodes, just like in a supermarket.

His hard work and initiative were recognised by CERN's service provider, ISS, who gave him a permanent contract.

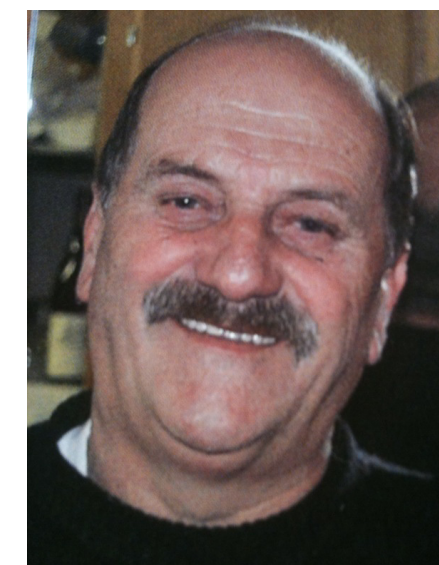
Following the closure of the self-service stores, Patrick joined the Recuperation and Sales Service, still within the FI Department, where he worked on dismantling many different installations and the disposal of various goods. Here too he impressed his supervisors and departmental managers and became a team leader and, soon after, deputy to the Head of the Sales Service.

Patrick's sociable nature led him to become a member of the CERN Pétanque Club, where he put his talents as a chef to good use by supplying and organising the post-competition meals.

He is survived by his partner Andréa, who helped and supported him to the end, as well as his son, his daughter and his three beloved grandchildren, who are all in our thoughts at this time.

Thank you Patrick.

His colleagues and friends



Official news

ADMINISTRATIVE CIRCULAR NO. 13 (REV. 3) - GUARANTEES FOR REPRESENTATIVES OF THE PERSONNEL

Administrative Circular No. 13 (Rev. 3) entitled "Guarantees for representatives of the personnel", approved by the Director-General following discussion at the Standing Concertation Committee meeting of 5 December 2013 and entering into force on 1 January 2014, is available on the intranet site of the Human Resources Department.

This circular is applicable to all members of the personnel.

It cancels and replaces Administrative Circular No. 13 (Rev. 2) entitled "Guarantees for members of the personnel holding representative office" of November 1992.

The circular was revised in order to adapt the time given to the representatives of the personnel to perform their elective mandate and to ensure more transparency in their activities, by indicating, inter alia, the percentage of time worked in the framework of their mandate, as well as the training, activities and ensuing results.

Department Head Office
HR Department

ADMINISTRATIVE CIRCULAR NO. 26 (REV.10) - RECOGNITION OF MERIT

Administrative Circular No. 26 (Rev. 10) entitled "Recognition of Merit", approved by the Director-General following discussion at the Standing Concertation

Committee meeting of 5 December 2013 and entering into force on 1 January 2014, is available on the intranet site of the Human Resources Department.

This circular is applicable to staff members.

It cancels and replaces Administrative Circular No. 26 (Rev. 9) entitled "Recognition of Merit" of December 2011.

The circular was revised in order to take into account the work performed in the framework of an elective mandate during the exercise of merit recognition of staff members. In addition, the circular was revised to provide that, in the case of staff members on special leave for professional reasons for a period equal to or longer than half a year, it will no longer be possible to grant an exceptional advancement.

Department Head Office
HR Department

Training

AXEL-2014: INTRODUCTION TO PARTICLE ACCELERATORS

AXEL-2014 is a series of courses on particle accelerators, given at CERN within the framework of the 2014 Technical Training Program. As part of the BE Department's Operation Group Shutdown Lecture series, the general accelerator physics module has been organised since 2003 as a joint venture between the BE Department and Technical Training, and is open to the wider CERN community.

The **AXEL-2014** course series is designed for technicians who are operating an accelerator or whose work is closely linked to accelerators, but it is also open to technicians, engineers, and physicists interested in this field. The course does not require any prior knowledge of accelerators. However, some basic knowledge of trigonometry, matrices and differential equations, and some basic knowledge of magnetism would be an advantage.

The series will be composed of 10 modules (**Monday 24 March 2014 – Fri 28 March 2014, from 9 a.m. to 10:15 a.m. and from 10:45 a.m. to 12 noon**), and will be given in English with questions and answers also

possible in French. The lecturer is Rende Steerenberg, Deputy Group Leader of the BE Operation Group and PS section leader. The programme 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 almost free of charge (only covering documentation costs), and registration is required. Participation in 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-2014, please talk to your supervisor and/or your Departmental Training Officer. On-line registration is possible via the Training Catalogue and the detailed program is available on the AXEL-2014 web page, accessible from <http://www.cern.ch/TechnicalTraining/>.

Organisers: Rende Steerenberg/BE-OP/79086
Technical Training/HR-LD/74924

NEW COURSE: "INTRODUCTION TO KNOWLEDGE TRANSFER TOOLS"

The Knowledge Transfer group is now offering a half-day course, which will give an introduction to intellectual property, contracts for knowledge transfer, and projects involving industry and other external partners.

The purpose of the course is to give the essential information about how one can secure ownership to inventions and to provide information on legal and contractual considerations when transferring knowledge and technology, or when doing collaborative R&D. The course will also highlight some common pitfalls that should be avoided to increase the chances of successfully transferring knowledge and technology. In addition the course will involve examples of real projects and challenges.

The first session will take place the **19 May 2014**. To enroll, please go to the Training Catalogue under: "Introduction to knowledge transfer tools".

SAFETY TRAINING: PLACES AVAILABLE IN MARCH 2014

There are places available in the forthcoming Safety courses. For updates and registrations, please refer to the Safety Training Catalogue.

March 2014
(alphabetical order)

Ergonomics - Worksite and Workshop
24-MAR-14, 9.00 – 17.30, in French

First Aider - Level 1 – Initial
27-MAR-14, 8.30 – 17.30, in English

Habilitation électrique - Electrician Low Voltage – Initial
24-MAR-14 to 26-MAR-14, 9.00 – 17.30, in English

Habilitation Electrique - Person making Tests in Labs or on Test-Stands – Initial
24-MAR-14 to 26-MAR-14, 9.00 – 17.30, in French

Mobile Elevated Working Platform - Driving – Refresher
21-MAR-14, 8.30 – 17.30, in French (hand-outs in English for non-French-speaking participants)

Radiation Protection - Controlled Area - CERN Employees and Associates
24-MAR-14, 9.00 – 17.00, in French
27-MAR-14, 9.00 – 17.00, in English

Self-Rescue Mask – Initial
24-MAR-14, 10.30 – 12.00, in French
24-MAR-14, 14.00 – 15.30, in English
31-MAR-14, 10.30 – 12.00, in French
31-MAR-14, 14.00 – 15.30, in English

Self-Rescue Mask – Refresher
20-MAR-14, 10.30 – 12.00, in English
25-MAR-14, 10.30 – 12.00, in French
27-MAR-14, 10.30 – 12.00, in English

Working at Heights - Using a harness
20-MAR-14, 9.00 – 17.30, in English
26-MAR-14, 9.00 – 17.30, in French

Safety Training team, HSE Unit

Take note

2014 ASIA-EUROPE-PACIFIC SCHOOL OF HIGH-ENERGY PHYSICS

Dear Colleagues,

I would like to draw your attention to the **2014 Asia-Europe-Pacific School of High-Energy Physics**.

The second Asia-Europe-Pacific School of High-Energy Physics, AEPSHEP2014, to be held in Puri, India, from 4 to 17 November 2014, is now open for applications (deadline 11 April 2014). AEPSHEP is held every second year, hosted in countries in the Asia-Pacific region. The first School in the series was held in Fukuoka, Japan in 2012.

Applications to attend the School are invited particularly from students from countries in the Asia-Pacific region and from Europe, although applications from other regions will also be considered. The programme of the school will be at a level appropriate for PhD students in experimental particle physics. It is anticipated that students working on phenomenology (if not too far from experimental particle-physics) will also be accepted. The School is open to junior post-docs (typically less than two years after completing their PhD), and also advanced MSc students provided that their prior knowledge is comparable with that of the principal target audience, so that they can benefit from the courses offered at the School.

Wherever possible, participants are expected to obtain funding for the fee as well as their travel from their home countries. However, some sponsorship will be available for a limited number of students from countries with developing programmes in particle physics. Eligible students are therefore encouraged to apply even if they do not expect to obtain funding from their home institute to attend the School.

Nick Ellis, on behalf of the Organising Committee

Conférence en anglais | Conference in English

SCIENCE ET GOUVERNANCE MONDIALE: la vision du CERN

SCIENCE & GLOBAL GOVERNANCE: CERN's Advocacy for Science in the International Community

Dr. Maurizio Bona
Conseiller du directeur général du CERN en charge
des relations avec les organisations internationales
Advisor to the Director General of CERN in charge
of relations with International Organizations

Mercredi 26 Mars 2014 | 18h15
UniMail, salle R290

Wednesday 26 March 2014 | 18:15
Room R290, Uni Mail

RELATIONS INTERNATIONALES

ae ASSOCIATION DES ETUDIANTS EN SCIENCE POLITIQUE ET RELATIONS INTERNATIONALES

UNIVERSITÉ DE GENÈVE

SWISS HEATS

Thursday, 27 March 2014
CERN, Globe of Science and Innovation, Geneva

Other date and venue:
Wednesday 19 March 2014, BQM Kulturcafe & Bar, Zurich

Information & registration
www.famelab.ch
Follow us on Facebook & Twitter
<https://twitter.com/FameLabCH>

What is FameLab?
FameLab is an exciting competition for young researchers

What is the aim of FameLab?
The aim is to find the new faces of Science in Switzerland

What do you have to do?
Impress the judges by giving an original and entertaining 3-minute talk

What is the content of the talk?
The talk should be scientifically accurate and understandable to a lay audience

Who can participate:
Scientists, researchers and science teachers, of all nationalities, between 18 and 35 years of age working in Switzerland

Wednesday 26 March 2014

At 7 p.m.

**Palais des Nations
Assembly Hall – Door 15**

Performance
Produced by MISMAONDA



WOUNDED TO DEATH

by **Serena Dandini**, with the collaboration of **Maura Misiti**

a series of monologues by women victims of domestic violence, read by well-known international personalities including: **Navi Pillay**, **Cécile Kyenge**, **Doris Schopper**, **Carla Del Ponte**, **Maria Grazia Cucinotta**, **Lara Gut**, **Kate James**, **Mimma Viglezio**, **Fabiola Gianotti**, **Ada Marra**, **Esther Mamarbachi**, **Elen Ringier**, **Petula Clark**, **Nelly Staderini**, **Edith Hunckeler**, **Kajori Massé-Basu** and the playwrights **Serena Dandini** and **Maura Misiti**.

A project on femicide by **Serena Dandini**, with the collaboration of **Maura Misiti** on the occasion of the 25th session of the Human Rights Council

All attendees who do not have a UN badge are kindly requested to register before 24 March at geneva.culture@ester.it



Organized by
The Permanent Mission of Italy to the United Nations Office and other international organizations in Geneva
The Permanent Mission of Switzerland to the United Nations Office and other international organizations in Geneva
in collaboration with the United Nations Office of Culture in Geneva and the United Nations Office of Culture in Zurich and Culture Italia - sans frontières in Geneva and in partnership with Eni and Gaecli



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