CERN Bulletin

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CERN'S COMMUNITY "LOG BOOK" TURNS 50

For five decades, the *CERN Bulletin* has been a staple of the Organization. As CERN has grown as a laboratory and a community, the *Bulletin* has been there to cover each development as it happens. In honour of the publication's 50th anniversary, we're taking a trip through CERN's history via the headings and hidden corners of its internal newsletter.

It's 1965 and CERN - now 11 years old - has matured from a simple lab to a fledgling community. While news could once spread in a single afternoon, CERN's growth necessitated a new approach to the sharing of internal information. Meanwhile, the *CERN Courier* - the only publication in town - was approaching a more global physics audience – an audience for whom CERN road closures were not breaking news.

And so, in March 1965, the *Weekly Bulletin* was born. What was meant as a simple newsletter of events and internal announcements quickly developed into a wider source of news about CERN. Digging through the archives of the *CERN Bulletin*, you'll find a treasure trove of historical notes about our community. Remember when the Organization had two Directors-General? Or when a DG announced that he was stepping down via a short note in the Bulletin? Or how about those beer bottles in the LEP vacuum chamber? Perhaps you still remember the cloud chamber aquarium in the Main Building? These details may be lost to memory, but have not been lost to print.

(Continued on page 2)

THE SLINGS AND ARROWS OF LHC RESTART SCHEDULES

We should now have been celebrating the first circulating beams of LHC Run 2, but, as I reported last Tuesday, I find myself instead having to write about a delay in proceedings. Against a backdrop of great progress in the powering tests for running at 6.5 TeV, a short to ground in one of the LHC's thousands of circuits became apparent on 21 March.

(Continued on page 2)

In this issue

NEWS

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A word from the DG

(Continued from page 1)

THE SLINGS AND ARROWS OF LHC RESTART SCHEDULES

Although a simple job to repair, it is compounded by the fact that the short is in a cold section of the machine, and it might therefore require a few weeks to warm up, carry out the repair and cool down again. Nevertheless, all the signs are good for a great Run 2, and in the grand scheme of things, a delay of weeks in humankind's quest to understand our universe is little more than the blink of an eye. The impact of the delay on the experiments will be minimal, as 2015 was always foreseen as a year for preparing the upgraded machine for full-scale physics running in 2016-2018.

When the LHC's first run got underway – five years ago to the day, on 30 March 2010 – I found myself quoting from Hamlet: it was, I said, the "to be or not to be" moment for the Higgs. Little did I think I'd be revisiting that same soliloquy as Run 2 gets under way, but like everything else in life, LHC restart schedules are subject to the "slings and arrows of outrageous fortune," and that's where we find ourselves this week. LHC Run 2 will undoubtedly deliver, but we'll need a little more patience before we get under way.

Other news comes from Washington, D.C., where some 340 physicists assembled for the 2015 Future Circular Collider (FCC) collaboration meeting. Fifty-one institutes from 19 countries are now signed up to the FCC study, and the discussions in Washington showed a remarkable unity of vision from around the world regarding the direction that particle physics should take over the coming decades. As I've said before, this is clear in the way that the European Strategy and the US P5 report align, though it was also particularly apparent through the presence of scientists from many Asian countries. Although Asia does not have the equivalent of a European Strategy or P5 process, it's clear that the particle physics community shares a global vision for a shared future, of which the FCC study is an important element for all of us.

Back here at CERN, as I've often stressed, the remarkable achievements made during Run 1, during LS1 and during the preparations for Run 2 would never have been possible without the exceptional dedication and high quality work of all CERN staff, users and contractors. Our governing body, the Council, is also well aware of the dedication and professionalism of everyone here at CERN and always praises your work. However, the difficult recent discussions at the Council, concentrating in particular on pensions but also on benefits in general, give a different impression at present and might even be a cause of demotivation. In this respect, I can assure you that extensive discussions will be taking place on these matters between the Management and the Council in the coming months with a view to ensuring CERN's continued success.

To end on a high note, it was 50 years ago this month that the *CERN Bulletin* first appeared. I don't know if this constitutes a record for an internal newsletter, but it's certainly an achievement worthy of note. So I'd like to end this message by saying: 'Happy birthday, *Bulletin*!'

Rolf Heuer

CERN'S COMMUNITY "LOG BOOK" TURNS 50

(Continued from page 1)

1968 n°7 - CERN's Got Talent: the Organization's logo was the result of an internal competition announced in the *Weekly Bulletin*.

1977 n°21 - Proof that CERN has always played host to a veritable alphabet soup of experiments.

1983 n° 3 - Just another Thursday: the discovery of the W-boson was announced in a seminar... on page 3.

1996 n° 12 - Murder or natural causes? The *Bulletin* investigates the fate of the Main Auditorium fish.

2012 n° 28 - This special edition was dedicated to the discovery of the Higgs boson and was published on the day of its announcement.

From the weird to the wonderful, we've highlighted some of our favourite CERN moments from the past five decades. The digitised collection of the *CERN Bulletin* is available on CDS for you to dig into and discover your personal favourites.

While digging into the archives, we discovered that *Bulletin* Issue 9/1965 is missing. If anyone among our readers has a copy of it, please contact us at **bulletin-editors@cern.ch**.

Feel up to further exploration? We found hundreds of fascinating *Bulletin* articles in our search, available in PDF format for your convenience at **http://cern.ch/go/nvB6**.

Katarina Anthony

LHC REPORT: A BRIEF DECELERATION

The LHC has now transitioned from powering tests to the machine checkout phase. This phase involves the full-scale tests of all systems in preparation for beam. Early last Saturday morning, during the ramp-down, an earth fault developed in the main dipole circuit. Full evaluation of the situation is ongoing.

The various systems are put through their operational paces from the CCC. This includes important tests of the beam dump system and full-scale tests of the beam interlock system (BIS) and its many inputs from other systems around the ring. All magnetic circuits are driven through the ramp, squeeze, ramp-down, and pre-cycle along with the collimators and RF. Instrumentation, feedbacks, and the control system are also stress tested. Inevitably there is some final frantic debugging but, up to now, things seem to be in reasonable shape. The machine checkout is an important coming together of all LHC systems. During this final phase before beam, the operations team tests all of the LHC subsystems to make sure the entire machine is ready for beam.

The powering test phase has left all but two of the 1700 or so magnetic circuits fully qualified for 6.5 TeV. This is the result of a six-month long programme of rigorous tests of the circuits involving the quench protection system, power converters, energy extraction, UPS, interlocks, electrical quality assurance, and magnet behaviour. Sector 4-5 dipoles have proved a little stubborn but are now at the target value of 11,080 A (6.5 TeV + 100 A) after some 50 training quenches and sector 3-4 dipoles are also very nearly fully trained to the same value.

However, on 21 March, early morning, an earth fault developed in the main dipole circuit during the ramp-down following what was probably the last training quench of sector 3-4. All the protection systems functioned properly and there was no harm done. The fault developed at relatively low current and was intermittent in nature at this stage.

Three main options are being explored. The first would inject an energy-limited pulse of current and attempt to melt the offending object. The second option would involve pressurising the helium in the local cryogenic sector and then performing a fast pressure discharge to generate turbulent flow and so dislodge the object. Studies and preparation for both these options are ongoing and both could be attempted relatively quickly. In-situ measurements by system experts have located the fault to within 10 cm by injecting current locally and using the standard cold mass instrumentation, which includes voltage and current taps. The fault is located in the vertical tube that leads from the magnet enclosure to the diode box situated under the magnet (see overleaf). The most probable scenario is that a small piece of metallic debris has inadvertently found its way into this tube and is making contact between the tube (earth) and one of the cables that leads to the diode. X-rays have been taken of the region. It's a difficult location and although some debris can be seen, the results are inconclusive.

The third option involves a partial warm-up of the sector and opening the magnet interconnect concerned. This would allow direct access to the diode box. The warm-up, intervention, and subsequent cool-down would take around six weeks.

Full evaluation of the risks of each option is ongoing. It's an interesting and frustrating problem; care is being taken that the only eventual cost is time.

Rossano Giachino & Markus Albert

Diode box

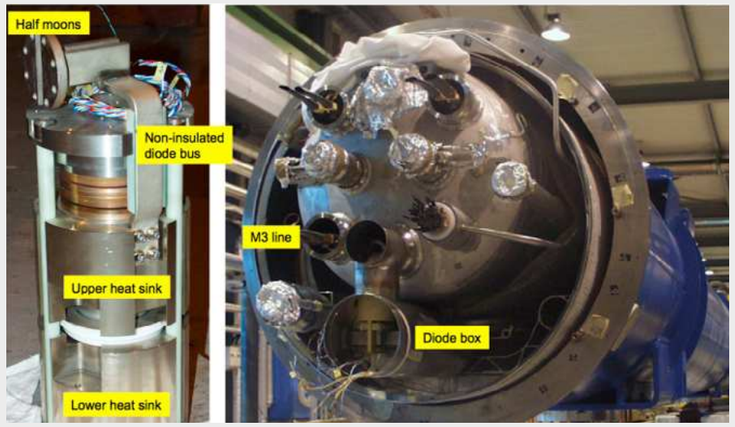

Image credits: Arjan Verweij.

An essential element for the protection of the dipoles is a high-current bypass diode mounted under the magnet. The diode operates at a temperature of 1.9 K. The diode box that holds the diode contains superfluid helium and is connected to the main helium enclosure of the magnet.

When a magnet quench occurs, the current in the quenched magnet diverts to the diode in about 0.5 s, and the rest of the magnet chain in superconductive state slowly ramps down with time constants of the order of 100 s. Thus the diodes conduct a current pulse of up to 13 kA, which decays exponentially with a time constant of about 100 s. This can lead to a temperature rise inside the diode of up to 300 K.

TRACKING THE LHC HALO

In the LHC, beams of 25-ns-spaced proton bunches travel at almost the speed of light and pass through many different devices installed along the ring that monitor their properties. During their whirling motion, beam particles might interact with the collimation instrumentation or with residual gas in the vacuum chambers and this creates the beam halo – an annoying source of background for the physics data. Newly installed CMS sub-detectors are now able to monitor it.

The Beam Halo Monitor (BHM) is a set of 20 Cherenkov radiators – 10-cm-long quartz crystals – installed at each end of the huge CMS detector. Their design goal is to measure the particles that can cause the so-called "machine-induced" background. "Thanks to these new sub-detectors, we will be able to measure these particles and study their impact on some of the physics final states, particularly the rare ones and those that are more sensitive to background," explains Anne Dabrowski, CMS physicist and technical coordinator of the BRIL (Beam Radiation Instrumentation and Luminosity) project, which encompasses, amongst other detector developments, the BHM. Understanding the sources of background is key to constantly improving the LHC beam performance for CMS and interpreting the physics data, because it allows scientists to disentangle the signals coming from beam collisions from the beam halo particles.

The 40 BHM units are installed parallel to the beam pipe around the experiment's rotating shielding, in a 'golden position' for this type of measurement, whose sensitivity is highly dependent on the direction of the incoming particles. When a charged halo particle crosses a Cherenkov radiator, it produces a light cone in the forward direction, which is collected and transformed into an electronic signal by the photomultiplier. "The direction-dependent signal coming from the Cherenkov radiator is the main feature that we use to distinguish the halo particles from the particles originating from the collision point, as they would hit our sub-detectors from different directions," explains Anne. "To optimise directional sensitivity, great care has been taken in the optical properties of every surface. We have painted the end of the crystal opposite the photomultiplier black. In this way, photons created by particles coming from the other direction or photons reflected by the photomultiplier surface can be completely absorbed and do not contribute to the signal of the photomultiplier." In addition, a very fast response from the whole system ensures excellent performance.

The Beam Halo Monitors (BHM) are installed around the CMS rotating shielding. The BHM are designed and built by University of Minnesota, CERN, Princeton University, INFN Bologna and the National Technical University of Athens. (Image: Andrea Manna).

This allows the CMS collaboration to exploit fully the BHM's golden location, where beam background particles will arrive 12.5 ns before outgoing collision products.

In its initial implementation phase, the BHM will be used to give the LHC machine experts feedback about beam quality. After the commissioning phase, it will be included in the CMS trigger and its information will be exploited during the experiment's data processing. Their excellent radiation hardness will allow the sub-detectors to remain in position even in the future HL-LHC environment.

Antonella Del Rosso

MOEDAL: PASSIVE BUT NO LESS ACTIVE

Relying almost completely on passive detectors, MoEDAL is a pioneering experiment designed to search for highly ionising avatars of new physics, such as magnetic monopoles or massive (pseudo-)stable charged particles. The first test detectors were deployed at LHC Point 8 in 2012 and analysed in 2013, and the full MoEDAL detector was installed in the winter of 2014 to start data-taking during Run 2 this year.

MoEDAL's groundbreaking physics programme defines over 30 scenarios that yield potentially revolutionary insights into such fundamental questions as: are there extra dimensions or new symmetries? Does magnetic charge exist? What is the nature of dark matter? And how did the big bang develop? MoEDAL's purpose is to meet such far-reaching challenges at the frontier of the field.

Having reached its final configuration in winter 2014, MoEDAL now consists of ten layers of plastic attached to the walls and ceiling of the cavern that houses LHCb's VELO detector at Point 8 of the LHC ring. Its plastic Nuclear Track Detectors act like the film of a camera sensitive only to new physics: when a heavily ionising stable particle, such as a magnetic monopole or a massive stable super-symmetric particle, crosses MoEDAL's detectors, it damages the plastic at the level of polymeric bonds in a small cylindrical region around its trajectory. The subsequent etching of the solid nuclear detectors leads to the formation of etch-pit cones. These conical pits are usually of micrometre dimensions and can be observed offline with an optical microscope. Their size, shape and alignment yield accurate information about the charge and the direction of motion of the incident highly ionising particle, thus they reveal the nature of particle messengers of physics beyond the Standard Model for further study. For example, if it exists, a magnetic monopole will leave a very characteristic set of collinear etch-pits.

The Magnetic Monopole Trapper (MMT) is MoEDAL's second sub-detector system consisting of roughly 1 tonne of aluminum trapping volumes deployed around the MoEDAL cavern. A fraction of the massive HIPs created will be captured in the MMT detector. The exposed MMT trapping volumes will be monitored at the ETH Zurich SQUID facility for the presence of captured monopoles and then to SNOLAB to be monitored for the decays of very long-lived electrically charged particles. The MMT detector is uniquely able to trap the particle messengers of New Physics for further study. MoEDAL's radiation environment is monitored by a third detector system, a real-time "digital-camera" TimePix pixel detector array.

The image shows the MoEDAL detector systems installed at Point 8 of the LHC.

Since its approval by CERN in 2010, the MoEDAL collaboration has trebled in size. It now includes 66 physicists from 23 universities and institutes in 13 countries on four continents.

MoEDAL Collaboration

KT FUND: FIVE YEARS OF FUNDING FOR IMPACT

Cryogenic safety, ion beam therapy, event management for communities, emergency lighting… this year's applications for funding through the Knowledge Transfer Fund demonstrate the breadth of possible applications of CERN technology beyond high-energy physics.

Following the 2015 selection committee held in January, the KT Fund has funded a total of seven new projects that aim to further develop CERN technologies to a level where they can be transferred and subsequently make a positive impact on society. "CERN's ambitious scientific programme requires state-of-the-art technologies that are not always directly reusable by society because they were not designed with this purpose in mind," explains David Mazur, Section Leader of the IP Dissemination Section. "Since 2011, the KT Fund has been facilitating the further development of technologies towards potential applications outside high-energy physics."

The financial resources for this fund are partly covered by any income generated through commercial KT contracts and partly by an additional contribution from the CERN budget. To qualify for the KT Fund, projects must be approved by the respective department, thereby giving its full support to the staff members who will drive the project to a successful outcome. "One of the first projects funded in 2011 was a new radiation-hard automated conveyor system for transporting batches of radioisotopes in the ISOLDE facility," recalls Thierry Stora, Leader of the MEDICIS Project. "Further to that, the CERN Management approved the construction of the MEDICIS Building and the MEDICIS project, which uses this conveyor system, has now received €3 million of funding from the EC to train Marie Curie fellows to develop novel radioisotopes for medical applications."

The use of high index glass spherical targets as retroreflectors for a 3D interferometer is the subject of one of the 2015 KT Fund Projects.

Another example of a successful KT Fund project is the development of Indico – the meeting management tool used daily at CERN and now in 158 organisations worldwide – to

increase its implementation outside high-energy physics by improving the branding and marketing of the software, as well as its ease of use and ease of tracking. The KT Fund success story also includes funding for a fellow conducting research that aims at optimising light extraction from scintillators using photonic crystals, which has now resulted in an industry-driven consortium for an improved PET scanning system for breast cancer KT Fund projects cover a wide range of technologies, including a device for studying liquid samples, a portable radiation survey meter for use in intense magnetic fields and KiCAD, the free and open source electronic design automation tool for PCB design that aims to match commercial solutions in terms of features and usability, thereby fostering and promoting open hardware as a very accessible dissemination mechanism.

CERN staff members are encouraged to submit project proposals for innovative industrial applications of CERN technologies throughout the year by contacting the Knowledge Transfer Group.

An overview of all KT Fund projects can be found here: **http://cern.ch/go/9Mk8**. To learn more about CERN's Knowledge Transfer activities, take a look at the 2014 annual Knowledge Transfer report, which has just been released. You can consult it online at **http://knowledgetransfer.web.cern.ch**.

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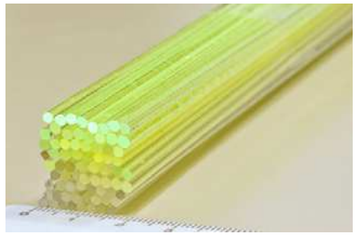
INTELUM PROJECT: TACKLING THE CALORIMETRY CHALLENGE FOR FUTURE HIGH-ENERGY COLLIDERS

Intelum is one of the CERN-coordinated projects funded under H2020. It aims to develop low-cost, radiation-hard scintillating and Cherenkov crystal and glass fibres for the next generation of calorimeter detectors for future high-energy experiments. This new technology could also have important applications in the medical imaging field.

Intelum project partners at the kick-off meeting held on 11 March at CERN.



LuAG fibres produced by two partners of the Intelum project (ILM/CNRS and Fibercryst).

Intelum is an H2020 Marie Skłodowska-Curie Research and Innovation Staff Exchange (RISE) project coordinated by CERN. This project was initiated by the Crystal Clear Collaboration (CERN's RD18 experiment), which has been developing inorganic scintillation materials for novel ionising-radiation detectors for 25 years.

Intelum is an international consortium including fifteen institutes and companies from across western and eastern Europe, Japan and the USA, all of which are experts in crystal growth, scintillating mechanisms, radiation damage and detector design. About 50 researchers will make short-term exchange visits to participating institutes to share their know-how and expertise.

Over the four years of the project, the partners hope to develop a new technology – called "micro-pulling-down crystal growth production" – that has the potential to enable heavy crystal scintillating fibres to be manufactured more quickly and more cheaply.

"With this project, we aim to demonstrate the sufficient radiation hardness of the new fibres by achieving the degradation of the optical properties of the fibres below 10% at the 1-MGy level of radiation," explains Etiennette Auffray, a member of the PH department and Intelum project coordinator. "We also plan to demonstrate the feasibility of producing up to 200 km of optimal–quality, cost-effective fibre."

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BUILDING 774: OPEN FOR BUSINESS

In July 2012, the demolition of Building 936 on the Prévessin site marked the start of the Building 774 project. On 23 February, less than three years later, the new 3900 m² building was handed over to the BE department.

The brand new Building 774. (Credits: Francesco Soppelsa)

Located near to the CERN Control Centre, Building 774 contains offices, laboratories and meeting rooms, as well as a huge public area consisting of a 104-seat auditorium, a changing room/shower area in the basement and a pleasant cafeteria open from 8 a.m. to 5 p.m., offering a wide range of refreshments including hot meals at lunchtime. "There were a few twists and turns during the construction of this building, but it all turned out well in the end!" says Michael Poehler, a member of the GS-SE group and the technical coordinator of the project.

The 120 occupants of the building have just moved into their brand new home, bringing all the members of the Controls group of the BE department into the same building for the first time: "The strategic location of Building 774 in relation to the CCC is a huge advantage for the members of the Controls group, who interact several times a day with the accelerator operators," explains Eugenia Hatziangeli, group leader.

Thanks to its public areas and reserved parking for buses and coaches, Building 774 will also become a pivotal location for welcoming visitors and dignitaries to the Prévessin site. "We are currently making some final adjustments based on comments from the occupants. The official inauguration, which is planned for mid-May, will bring the project to a close," says Pierre Charrue, a member of the BE-CO group and the project leader. "I'm happy to see that all our efforts over many months have resulted in a building that is as functional as it is attractive and that will, I hope, be appreciated by those who use it."

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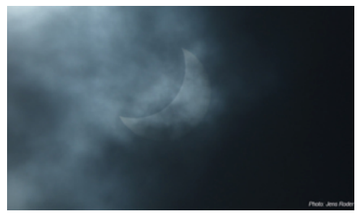
NEW ARRIVALS

On Thursday, 12 March 2015, recently recruited staff members and fellows participated in an introductory session in the framework of the Induction Programme.

DID YOU MISS THE ECLIPSE?

Not wanting to miss a moment of the beautiful celestial dance that played out on Friday, 20 March, Jens Roder of CERN's PH group took to the Jura mountains, where he got several shots of the event. Here are a selection of his photos, which he was kind enough to share with the *Bulletin* and its readers.



Computer Security

CERN SECURE PASSWORD COMPETITION

It's time for a spring clean at the CERN Single Sign-On portal. We will take this opportunity to review all 20,000+ passwords used with CERN primary, secondary and service accounts. This campaign has three purposes: to identify password duplicates, to extend the password history rule to all CERN accounts, and to reward the "best" passwords used at CERN.

The first aim, identifying password duplicates, involves finding different accounts using the same or similar passwords. As of **1 April**, we will prevent the use of a password if it is already in use by someone else. We will notify the affected users well in advance and also provide them with the email addresses of peers using the same or similar passwords - this Facebook-like feature will allow users to form interest groups and share experiences of their password (usage).

In parallel, we will extend the password history rule to all CERN accounts. This history currently prevents you from reusing any passwords that you've used before. As of 1 April, this will be extended to include the previous passwords of all users: once a password has been used by one of the 20,000+ CERN accounts, it can never be used again…

Finally, we have formed a joint jury of colleagues from the HR and IT departments who will reward the best, most secure and most complex passwords used at CERN, the longest ones, the most creative or prosaic, the funniest and the most inspiring. The basis will be the CERN password database.

The winning passwords and the names of their account owners will be published in the next issue of the *CERN Bulletin*. If you want to make sure that your password is among those, please point us to your account name (**please do NOT send us your password** as your password is yours and only yours).

Here are some hints to help you choose good, secure passwords:

- Choose a line or two from your favorite song or poem, and use the first letter of each word. For example, "In Xanadu did Kubla Kahn a stately pleasure dome decree!" becomes "IXdKKaspdd!". Mathematical formulas would also do: "a**2+sqr(b)==c^2".
- Use a long passphrase like the sentence"In XanaduDidKublaKahnAStatelyPleasureDomeDecree!" itself.
- Alternate between one consonant and one or two vowels with mixed upper/lower case. This provides nonsense words that are usually pronounceable, and thus easily remembered. For example: "Weze-Xupe" or "DediNida3".
- Choose two short words (or a big one that you split) and join them together with one or more punctuation marks. For example: "dogs+F18" or "comP!!UTer".

Remember that your password is like your toothbrush - you do not share it and you change it regularly. Neither your colleagues, your supervisor, the Service Desk nor the Computer Security team have any valid reason to ask for it. They should not and will never do so. The same is valid for any external company: UBS, Paypal, Amazon, Facebook or Google will never ask you for your password! Your password is yours and yours alone.

For further information, questions or help, check: **https://security.web.cern.ch**
or contact us at
Computer.Security@cern.ch

Do you want to learn more about computer security incidents and issues at CERN? Follow our Monthly Report:
https://cern.ch/security/reports/fr/monthly-reports.shtml

Stefan Lueders, Computer Security Team

Official news

ADMINISTRATIVE CIRCULAR NO. 2 (REV. 7) - RECRUITMENT, APPOINTMENT AND POSSIBLE DEVELOPMENTS REGARDING THE CONTRACTUAL POSITION OF STAFF MEMBERS

Administrative Circular No. 2 (Rev. 7), entitled "Recruitment, appointment and possible developments regarding the contractual position of staff members", approved by the Director-General following discussion at the Standing Concertation Committee meeting held on 17 February 2015 is available via the following link: http://cern.ch/go/6phs.

This revised circular cancels and replaces Administrative Circular No. 2 (Rev. 6), entitled "Recruitment, appointment and possible developments regarding the contractual position of staff members" and dated January 2015.

The circular was revised in order to implement the amendment to Article R II 1.17 of the Staff Regulations, which introduces the possibility of extending limited-duration (LD) contracts up to a maximum total duration of eight years from the previous duration of five years.

The award of indefinite contracts will continue to be subject to the outcome of a competitive process.

Department Head Office
HR Department

Take note

RESTAURANT CLOSURES DURING HOLIDAY PERIOD

- **CERN restaurant opening times during the Easter weekend:**
  - Restaurants No. 1 and No. 3 will be closed from Friday, 3 April to Monday, 6 April 2015 inclusive.
  - Restaurant No. 2 will be open from 7.00 a.m. to 3.30 p.m. on Friday, 3 April (no table service). It will be closed from Saturday, 4 April to Monday, 6 April 2015 inclusive.
  - Building 40 will be open from 8.00 a.m. to 8.00 p.m. from Friday, 3 to Monday, 6 April 2015.
- **CERN restaurant opening times on Friday 1 May:** Restaurant No. 1 will be opened from 7.00 a.m. to 10.00 p.m. Restaurants No. 2 and No. 3 will be closed.
- **CERN restaurant opening times during the Ascension week-end:** Restaurant No. 1 will be open from 7.00 a.m. to 10.00 p.m. on Thursday, 14 and Friday 15 May. Restaurant No. 2 will be closed on Thursday, 14 May and open on Friday, 15 May until 3.30 p.m. (no table service). Restaurant No. 3 will be closed.
- **CERN restaurant opening times on Whit Monday, 25 May:** Restaurant No. 1 will be open from 7.00 a.m. to 10.00 p.m. Restaurants No. 2 and No. 3 will be closed.

2015 EUROPEAN SCHOOL OF HIGH-ENERGY PHYSICS

Dear colleagues,

I would like to draw your attention to the 2015 European School of High-Energy Physics. Details can be found at:

http://physicschool.web.cern.ch/PhysicSchool/ESHEP/ESHEP2015/default.html

The School will be held in Bulgaria from 2-15 September 2015. PLEASE NOTE THAT THE **DEADLINE FOR APPLICATIONS IS 8 May 2015**

The lectures will cover a broad range of HEP topics at a level suitable for students working towards a PhD in experimental particle physics.

Note that, as indicated on the website, one or two students from developing countries may be considered for the award of financial support.

Nick Ellis
(On behalf of the Organising Committee)

PRÉVESSIN SITE: PEDESTRIAN AND CYCLE ENTRANCE

The entrance for pedestrians and cyclists on Chemin du Moulin des Ponts, in Prévessin, will be re-opened:

- from 7 April to 30 October 2015,
- from 7.00 a.m. to 9.00 a.m. and from 5.00 p.m. to 7.00 p.m. on working days (Monday to Friday).

IMPORTANT: all users must show their access cards to the security guard as a matter of course when passing through the gates, both on entering and leaving the site.

THE PORT IS LOOKING FOR YOUR INPUT

Look at the clock: it's 2 a.m. Look at the cup: out of coffee. Look at the electronics on the table: sort of working. Go back to the computer: code seems to be running fine. Good, time for more coffee. The hammock in the corner creaks a little, someone else still burning the midnight oil, probably needing coffee too.

THE PorT
unite innovators · impact future · act today

Two days later and we had a sort-of working prototype of a desktop cosmic ray detector. Others had built an electronic suit for use by mine detection dogs, an inflatable fridge for vaccines, a terrain-mapping tool for refugee camps, demarking tools for conflict zones and an obfuscated database for sensitive information. 60+ enthusiastic and satisfied participants came together for three exciting and extremely productive days for THE Port hackathon last October, tackling humanitarian problems with a technical bent in collaboration with a variety of NGOs.

After such success, we are planning to run a second event this autumn, from 2-4 October at two locations: IdeaSquare at CERN, where we will focus on hardware-related humanitarian topics, and Campus Biotech, where we will focus on health-related topics as well as information and communications technology. We are on the hunt for new topics and ideas to pass on to our participants this year and we'd like your input! Ideas for topics can come f rom NGOs, participants or anyone else with an interesting suggestion. Know of a problem facing the world, no matter how big or small, or have an idea for something that could help others? Contact us at **ideas@theport.ch** - we'd love to hear all about it!

For more information, please see **http://www.theport.ch**.

CALIBRATION OF "BABYLINE" RP INSTRUMENTS

If you have old RP instrumentation of the "Babyline" type, as shown in the photo, please contact the Radiation Protection Group (Joffrey Germa, 73171) to have the instrument checked and calibrated. Thank you.

Radiation Protection Group

GATE A: CHANGES TO OPENING HOURS

Due to maintenance work, the opening hours of Gate A (near Reception) will be modified between Monday, 13 and Friday, 17 April 2015.

During this period, the gate will be open to vehicles between 7 a.m. and 9.30 a.m., then between 4.30 p.m. and 7 p.m. **It will be completely closed to traffic between 9.30 a.m. and 4.30 p.m.**

Pedestrians and cyclists may continue to use the gate.

We apologise for any inconvenience and thank you for your understanding.

CERN ACCELERATOR SCHOOL: REGISTRATION OPEN FOR ADVANCED ACCELERATOR PHYSICS COURSE

Registration is now open for the CERN Accelerator School's Advanced Accelerator Physics course to be held in Warsaw, Poland from 27 September to 9 October 2015.

The course will be of interest to physicists and engineers who wish to extend their knowledge of Accelerator Physics. The programme offers core lectures on accelerator physics in the mornings and a practical course with hands-on tuition in the afternoons.

Further information can be found at:

- **http://cas.web.cern.ch/cas/Poland2015/Warsaw-advert.html**
- **http://indico.cern.ch/event/361988/**

Training

PLACES AVAILABLE - TECHNICAL MANAGEMENT COURSES (UP TO THE END OF JULY)

Please find below the courses in the field of technical management scheduled up to the end of July and which have places available.

Upcoming Technical Management courses (in chronological order)

		Language	Next Session	Duration	Availability
New	Procurement of supplies at CERN up to 200 000 CHF – e-learning	English	n/a	1 hour	n/a
New	Achats de fournitures au CERN jusqu'à 200 000 CHF – e-learning	français	n/a	1 hour	n/a
	Dealing with Media questions!	English	6 May	1 day	3 places
	Dealing with Media questions!	English	7 May	1 day	4 places
	Introduction to knowledge transfer tools	English	21 May	4 hours	24 places
	PMI Project Management	English	26/27 May + 18/19 June	4 days	8 places
	Quality Assurance	English	15-16 June	2 days	9 places
	Selecting the right person for CERN	English	4 June	1 day	3 places
	Project Engineering	English	29-30 June	2 days	9 places
New	Building up a good Marie Sklodowska-Curie project and writing a successful proposal	English	1-2 July	2 days	20 places
New	Selecting the right person for CERN	English	9 July	1 day	3 places

For more details about a course and to register, please go to the **http://cern.ch/go/GxG8**.

If you need a course that is not in the catalogue, please contact your supervisor, your Departmental Training Officer or the HR-LD group at **Communication.Training@cern.ch**.

LASER TRAINING COURSES: NEW PURPOSE-BUILT ROOM FOR PRACTICAL EXERCISES

CERN's Safety Training Centre, on the Prévessin site, now features a new facility for the "Laser - Expert" and "Laser - User" training courses: a dedicated room for practical exercises, near the theoretical training room. From now on, participants will be able to move from theory to practice in just a few steps!

The new room, equipped with real lasers ranging from levels 1 to 4, allows the participants to put their training into practice in real-life situations, solidifying the principles and lessons learned during the theory part – and all in complete safety, since the room was of course designed to allow the control of dangers posed by lasers. The participants and instructors are also provided with the required personal protective equipment (goggles, etc.) during the sessions.

Efforts are being made to make the Centre's infrastructure more useful to improve the quality of training on offer. For example, the laser training room was planned not only with typical participants in mind but also for use by the Fire and Rescue Service. The firefighters need to be trained to carry out operations in areas containing lasers, so they will benefit greatly from the new equipment.

The HSE Unit would like to thank all the departments and people who have contributed to this development, especially Roland Magnier.

To sign up for a laser training course, please use the Training Catalogue ("Non-ionizing radiation" category).

If you have any questions concerning:

- Lasers: contact the LSO (Laser Safety Officer) or DSO for your department,
- Safety training: **safety-training@cern.ch**,
- Safety and working conditions: **hse.secretariat@cern.ch**,
- Medical aspects and occupational health: **medical.service@cern.ch**.

Safety Training, HSE Unit

PERSONAL DEVELOPMENT AND COMMUNICATION COURSES

Please find below the list of courses in the field of Personal Development and Communication which are scheduled before the end of July.

Personal Development and Communication, in English

	Next Session	Duration	Availability
Communicating to convince	15-16 April	2 days	2 places
Communication: Science or Art? (Workshop 1)	28 April 18 May 26 May 27 May	1 day	4 places 10 places 12 places 11 places
Balancing performance and pressure	4, 5 May	2 days	6 places
Personal Awareness & Impact	6-8 May 10-12 June	3 days	3 places 6 places
Personal Awareness & Impact - Follow-up	11-12 May	2 days	2 places
Handling difficult conversations	12-13 June + 04 September	3 days	3 places

In addition, the following courses are scheduled in French:

Développement personnel et communication, en français

	Prochaine session	Durée	Disponibilités
Savoir gérer les discussions difficiles	23-24 mars + 4 mai	3 jours	3 places
Communiquer pour convaincre	13-14 avril	2 jours	2 places
Équilibre entre performance et pression (avant : « Gestion du stress »)	27-28 avril	2 jours	6 places
Communication : science ou art (atelier 1)	28 avril 18 mai 26 mai 27 mai	1 jour	4 places 10 places 10 places 12 places
Négociation efficace	19-20 mai	2 jours	11 places
Techniques d'exposé et de présentation	10-11 juin + 6 juillet	3 jours	5 places
Les enjeux de la voix et du comportement non verbal dans la communication orale	29, 30 juin	1 jour ½	6 places
Animer ou participer à une réunion de travail	7-9 juillet	3 jours	12 places

For more details about a course and to register, please go to **http://cern.ch/go/GxG8**.

If you need a course which is not in the catalogue, please contact your supervisor, your Departmental Training Officer or HR-LD at **Communication.Training@cern.ch**.

LANGUAGE TRAINING

General & Professional French courses
The next General & Professional French course will start on 4 May. These collective courses aim to bring participants who have at least level A1 to higher levels (up to C2).

The workload of each course is 60 hours and consists of a combination of face-to-face sessions (40 hours) with personal work (20 hours) following a specially designed programme.

A final progress test takes place at the end of the term.

If you have not followed a French course in January please sign up for a placement test!

French courses for beginners
The aim of this course is to give some basic skills to beginners in order to be able to communicate in simple daily life situations in both social and professional life. These courses can start at any time during the year, as soon as a group of beginners has been identified.

Participants can apply for a semi-intensive (10-week courses with 6 hours of classes per week) course and choose between different schedules (morning-lunch time – late afternoon).

If you have doubts regarding your level of French - consult the "European levels – Self-Assessment Grid" that will give you an idea at what level you will be placed.

French Oral Expression
These collective courses aim to bring participants with a good level of French to a higher level of oral expression in a professional context. The next Oral Expression course will start on 4 May.

The workload of the course is 40 hours and consists of a combination of face-to-face sessions (30 hours) with personal work (10 hours) following a specially designed programme.

If you have not followed a French course in January please sign up for a placement test!

French Writing Course
These collective courses aim to bring participants with a good level of French to a higher level of written expression.

The workload of the course is 40 hours and consists of a combination of face-to-face sessions (30 hours) with personal work (10 hours) following a specially designed programme.

If you have not followed a French course in January please sign up for a placement test!

Cours d'anglais - général & professionnel
Les prochains cours général & professionnel débuteront le 4 mai. L'objectif principal de ces cours collectifs est de permettre aux participants d'un niveau A1 de progresser pour atteindre un niveau supérieur pouvant aller jusqu'à C2.

Nous vous prions de remplir aussi une demande de formation pour un test de placement – ce test est obligatoire, même si vous avez déjà suivi des cours de langue au CERN.

Cours d'expression – anglais
Le prochain cours d'expression orale débutera le 4 mai. Ce cours s'adresse à un publique ayant un bon niveau en anglais.

Cours d'expression écrite
Nous proposons deux cours d'expression écrite :

- **Administrative**
- **Technical**

Si vous souhaitez suivre un de ces cours, merci de bien vouloir remplir une demande de formation pour le cours et pour le test de placement.

For registration and further information about the courses or the language tandem programme, please contact Kerstin Fuhrmeister (70896, **language.training@cern.ch***).*

Seminars

TUESDAY APRIL 07, 2015

11:00 **Academic Training Lecture Regular Programme Practical Statistics for LHC Physicists: Descriptive Statistics, Probability and Likelihood (1/3)** Council Chamber

WEDNESDAY APRIL 08, 2015

11:00 **Academic Training Lecture Regular Programme Practical Statistics for LHC Physicists: Frequentist Inference (2/3)** Council Chamber

THURSDAY APRIL 09, 2015

11:00 **Academic Training Lecture Regular Programme Practical Statistics for LHC Physicists: Bayesian Inference (3/3)** Council Chamber

TUESDAY APRIL14, 2015

16:00 **EP Seminar A complete demonstrator of a muon cooled Higgs factory** Main Auditorium