

HIGH-ENERGY COMMUNICATION

On Wednesday at 10.40 a.m., the LHC operators declared “stable beams” after two years of technical stop and a few months of commissioning. It was an exciting day for all the teams involved, including those who worked on communicating the news to the public and the media on multiple platforms.



CERN's most successful tweet on 3 June featured collision images from ALICE, ATLAS, CMS and LHCb and was shared 800 times by the Twitter audience.

Live blogging, social media posts, a live webcast, and a constant outpouring of photos and videos: Wednesday morning was a crazy time for the communication teams from CERN, the experiments and various institutes around the world. Even though the event

started very early in the morning (the live CCC blog started at 7 a.m. and the live webcast at 8.20 a.m.), the public and the media tuned in to follow and generously cover the start of the LHC's physics run at an unprecedented energy of 13 TeV.



STABLE BEAMS

Stable beams: two simple words that carry so much meaning at CERN. When LHC page one switched from “squeeze” to “stable beams” at 10.40 a.m. on Wednesday, 3 June, it triggered scenes of jubilation in control rooms around the CERN sites, as the LHC experiments started to record physics data for the first time in 27 months. This is what CERN is here for, and it's great to be back in business after such a long period of preparation for the next stage in the LHC adventure.

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A word from the DG

STABLE BEAMS

I've said it before, but I'll say it again. This was a great achievement, and testimony to the hard and dedicated work of so many people in the global CERN community. I could start to list the teams that have contributed, but that would be a mistake. Instead, I'd simply like to say that an achievement as impressive as running the LHC – a machine of superlatives in every respect – takes the combined effort and enthusiasm of everyone involved. For the LHC and its detectors to work, everything has to work. And that means I take my hat off to everyone. It is a fantastic achievement.

What comes next will, without a doubt, change the way we see the Universe we live in. That much is clear. How it will change things is less clear. If nature is kind, we could find ourselves announcing another major discovery before Run 2 is

over. If nature guards her secrets more closely, then we will still have learned things of importance, not least about the Brout-Englert-Higgs mechanism. Whatever the case, Run 2 has much to deliver.

Personally, this important milestone serves as a reminder that my tenure as CERN's Director-General will soon be coming to an end. It's far too early today for me to say farewell, yet what happened on Wednesday is what Council expected when they offered a two-year extension to the mandate of CERN's management team.

While applauding the start of LHC Run 2 in the CERN Control Centre, my thoughts therefore turned to the meeting of Council in March 2012 at which that offer was made. Council's argument was that the LHC's first long shutdown was

not the time for a management change: they wanted stability. And they were right. Stability has allowed CERN to be a force for science for over 60 years, and a role model for Europe. And although we'll be changing management at the end of this year, stability is what the new management will need to steer CERN to future achievements.

On behalf of my management team, I accepted Council's offer with humility - I know that extensions are rare - and a sense of the responsibility that came with it. I'm pleased that we have fulfilled Council's confidence, and I'm proud of everyone who made Wednesday's success a reality. Now let's go and do some physics!

Rolf Heuer

HIGH-ENERGY COMMUNICATION

The statistics showed thousands of visits to the live blog, over 15,000 viewers for the live webcast, and an incredibly engaged audience on social media (see the box on page 3). The communication teams in the LHC experiments were all at work to provide timely images, animations and social media feeds. They also got an impressive response from the public: the CMS static event display received more than 450 retweets and more than 300 favourites, while the animated one received more than 320 retweets and more than 200 favourites. The animated event display also received more than 15,000 views on YouTube and 21,000 views on Facebook. In addition, the CMS event display featured prominently on the BBC article about the start of Run 2.

On the opposite side of the LHC ring, as soon as stable beams were announced, the ATLAS experiment released a statement in 13 languages. Meanwhile, their social media platforms gave a blow-by-blow commentary of the morning's events from the ATLAS

control centre. These posts generated more than 400,000 impressions on Twitter and the highest reach of the year on Facebook.

Over at LHCb, applause rang out not upon the announcement of stable beams, but rather with the closing of their VELO (vertex locator) for the first time since Run 1. Their event display also garnered a lot of media attention, and was featured on the front page of the BBC. ALICE's first event display received similar attention, being featured by *The Economist*.

In the CERN Press Office, the telephone started ringing very early in the morning. Journalists were happy with the wide choice of communication products – photos, videos, live updates – that were on offer. The huge effort paid off as over 2500 press cuttings were collected over 48 hours – three to four times more than the average. In addition, over 200 news channels broadcast images from CERN on the day and the live webcast was broadcast by press agencies and websites.

The communication event on 3 June concludes an intensive 12-month storytelling media campaign involving the entire CERN Communication group and beyond. This laid the groundwork that led to the LHC restart having such a high impact in the media. This campaign started in June 2014 at the ESOF conference, when the LHC restart was put on the popular agenda as the accelerator chain began its restart. Sharing the different steps of the restart of the LHC has been like running a marathon: building up from the first circulating beams at Easter and culminating with the start of physics at 13 TeV.

So while the first day of Run 2 started with strong coffee for a lot of people in the CCC, the outcome was – once again – very rewarding. For a more technical account of the start of the high-energy run of the LHC and the steps that are ahead, do not miss this week's *LHC Report*.

To watch the videos of the event, go to: <http://cern.ch/go/Vw9N>.

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#13TeV - A new energy frontier also for CERN social media

In the 48-hour period around the start of physics at 13 TeV, CERN sent out 90 posts with the hashtag #13TeV on its social media channels (Twitter in English and French, Facebook, Google+, YouTube and Instagram). Across the social media platforms, #13TeV was mentioned more than 22,000 times. The early start meant that most of our largest online audience, the US, was still asleep,

however those on the other side of the world certainly appreciated it, with #13TeV trending in Australia.

CERN was mentioned more than 20,000 times on Twitter alone, with CERN's English-language Twitter account gaining more than 1,700 new followers, taking the total number of followers to nearly 1.2 million. CERN's Facebook page gained almost 1,700 new followers and saw

the highest engagement of all of CERN's social media channels in that period. The most successful post was an animation of the LHC, shared 3,500 times by the Facebook community. The same animation was watched more than 10,000 times on YouTube. CERN's Instagram account, the newest of CERN's social media channels, saw a total of 5,000 likes of CERN's images during the 48 hours.

CERN Communication Group

LHC REPORT: FIRST STABLE BEAMS AT 6.5 TEV

Give or take some important loose ends, the morning of Wednesday, 3 June saw the nominal end of an intense eight weeks of beam commissioning and the delivery of the first stable beams at 6.5 TeV. Under the gaze of the media, 3 nominal bunches per beam were taken through the full cycle into collisions. This was followed by the declaration of stable beams, marking the start of Run 2 physics data-taking.



The final stages of preparation involved the set-up of the tertiary collimators. These are situated on the incoming beam about 120 to 140 m from the interaction point where the beams are still in separate beam pipes. As the local orbit changes in this region during the squeeze and after the collapse of the separation bumps, the tertiary collimators set-up with respect to the beam is required both at the end of the squeeze and with colliding beams. The orbit and optics at the main collimator groupings in the cleaning sections of Points 7 and 3 are kept constant during the squeeze and in collision – hence the

set-up and validation of these remains valid throughout all high-energy phases.

The full collimator set-up is validated at each stage with loss maps. Under controlled conditions, beam loss is deliberately provoked and the teams carefully check that the beam losses end up where they should, thereby validating the strict collimator hierarchy. The beam losses in the transverse plane are generated using the exquisite selectivity of the transverse damper system. For each beam, in each plane, a single bunch is targeted, and by injecting noise the transverse dampers are

able to “blow-up” a single bunch, provoking the necessary losses.

The eight week long beam commissioning period has seen a sustained effort by the teams involved. The essential thrusts have been the commissioning of the key beam-related systems (RF, power converters, collimators, beam dumps, injection, magnets, vacuum, transverse feedback, machine protection, magnets, beam instrumentation, beam-based feedbacks, controls, databases, high-level software), characterisation and correction of the machine characteristics (magnetic, optics, aperture), and commissioning of the various phases of the operational cycle. This has translated into teams working nights, weekends and holidays to push the programme through. Activities have ranged from optics measurement and correction, injection and beam dump set-up, collimation, wrestling with the wide range of beam instrumentation, optimisation of the magnetic model, aperture measurement, etc., with operations tackling the intricacies of the ramp, squeeze, etc. All this has been backed by full validation of the various components of the machine protection system by the groups concerned.

The execution of the programme has also relied on good machine availability and the support of the injector complex, cryogenics, survey, technical infrastructure, access, radiation protection, and close and friendly collaboration with the LHC experiments.

First stable beams was an important first set-up, but there is still a long way to go before this year's target of around 2500 bunches per beam is reached and the LHC starts delivering some serious integrated luminosity to the experiments.

Mike Lamont, Jorg Wenninger, Jan Uythoven, Stefano Redaelli, Wolfgang Hofle and Massimo Giovannozzi for the LHC team

FAMELAB INTERNATIONAL FINAL: A TRIUMPH FOR SWITZERLAND AND CERN

Oskari Vinko, from ETH Zurich, who won the Swiss finals organised at CERN last May, is the winner of the 2015 FameLab competition. The CERN winner Lillian Smestad, member of the AEGIS collaboration from the Norwegian Research Council, shared second place with François-Xavier Joly from France, who also was among the trainees at the FameLab Master Classes organised by CERN in April.



CERN's Lillian Smestad (left) and Oskari Vinko from ETH Zurich, during the Swiss and CERN joint final, organised at CERN in May 2015.

The 2015 FameLab International Final, which took place on 4 June in Cheltenham, UK, was a triumph for Switzerland and CERN! The competition was very hard this year, with 27 countries participating in the international semifinals and only nine making it through to the finals. This was also the first year that CERN took part as a "country".

Congratulations to all the winners!

See the videos:



<http://cern.ch/go/7BrX>
<http://cern.ch/go/GN9z>

To experience the international Famelab final 2015 for yourself go to: <http://cern.ch/go/LLh6>.

CERN Bulletin

CERN OPENLAB OPEN DAY

CERN openlab is the unique public-private partnership between CERN and leading companies in the field of information and communication technology. The programme is now entering an exciting new phase and is expanding to include other public research organisations for the first time. A special event will be held at CERN to mark this occasion.



CERN openlab was created in 2001 and is now entering its fifth three-year phase (2015-2017). Its mission is to accelerate the development of cutting-edge solutions to be used by the scientific community to control the operations of complex machines and to analyse the vast amounts of data produced by physics experiments. During Run 2 of the LHC, it is expected that the CERN Data Centre will store more than 30 petabytes of data per year from the LHC experiments, which is equivalent to about 1.2 million Blu-ray discs, or 250 years of HD video. Testing in

this demanding environment provides the companies collaborating in CERN openlab with valuable feedback on their products, while enabling CERN to assess the merits of new technologies in their early stages of development for possible future use.

Huawei, Intel, Oracle and Siemens are all partner companies for the new phase of CERN openlab. Brocade, Cisco, IDT, Rackspace and Seagate are contributors, while Yandex* is an associate member. The European Bioinformatics Institute (EMBL-EBI) and the GSI Helmholtz Centre for Heavy Ion Research are the first new public research organisations to join CERN openlab.

"CERN openlab plays a vital role in ensuring that members of CERN's scientific community have access to the very latest ICT solutions to help them do their ground-breaking work and further our understanding of the universe," says Alberto Di Meglio, Head of CERN

openlab. "Our expansion to include other public research organisations makes this a very exciting time for us all. By pooling our knowledge and expertise, we aim to address the common challenges faced by large-scale research laboratories in the era of big data." But CERN openlab also aids innovation by enabling the continuous exchange of information and expertise between research and industry. "Technologies targeted at the needs of CERN today are likely to become mainstream products for enterprise - or even consumer - markets just a few years down the line," confirms Di Meglio.

On 10 June, CERN openlab is holding a first-of-its-kind 'Open Day' event. The event will take place at CERN and will be an opportunity to learn more about the work carried out through CERN openlab to help tackle the challenges faced by the scientific community. Members of the CERN community are invited to take part.

* Read more about Yandex's involvement with CERN in the Bulletin article: "A search engine to find the best data?" at <http://cern.ch/go/g7nZ>.

Andrew Purcell

EUROCIRCOL: A KEY TO NEW PHYSICS

Monday 1 June saw the start of EuroCirCol, the EC-funded part of the FCC study that will develop the conceptual design for an energy-frontier hadron collider.



Attendees at the EuroCirCol meeting at CERN.

The EuroCirCol kick-off event at CERN on 2 to 4 June brought together 62 participants to constitute governance bodies, commit to the project plan and align the organisation, structures and processes of 16 institutions from 10 countries. The goal of the project is to conceive a post-LHC research infrastructure around a 100 km circular energy-frontier hadron collider capable of reaching 100 TeV collisions. The project officially started on 1 June and will run for four years. The total estimated budget of 11.2 MEUR includes a 2.99 MEUR contribution from the Horizon 2020 programme dedicated to the development of new world-class research infrastructures.

EuroCirCol will deliver a design for a hadron collider as part of the broader Future Circular Collider (FCC) study. It will provide input to an accelerator infrastructure roadmap taking into account European and global interests by the time of the next update of the European Strategy for Particle Physics in 2018. It was the only one of 39 submissions to receive the maximum number of points from reviewers, a clear sign that high-energy physics remains a top priority for the European Commission.

EuroCirCol is organised around four technical work packages: the first two relate to the development of the collider's lattice and beam optics, including the experimental regions. A third is for the development of prototypes

and will test a novel cryogenic beam vacuum system that can respond to the challenges of the high synchrotron radiation expected at such a collider. This work also pioneers collaboration between the particle physics light source communities, with opportunities to improve existing synchrotron radiation facilities and to reduce the cost and improve performance of fourth- or fifth-generation light sources. The last work package will study a viable design for a 16 Tesla accelerator magnet as part of a worldwide study of conductor R&D for the HL-LHC project and the FCC study.

The EuroCirCol project creates opportunities for doctoral and post-doctoral assignments in the areas of beam optics and accelerator technologies in the participating institutes. It also provides excellent training opportunities for next-generation accelerator physicists under the guidance of world-renowned experts in the field.

EuroCirCol is a building block in the globally coordinated strategy of the FCC study to produce a global design for a global machine. The main outcome of EuroCirCol will be the laying of foundations for subsequent research infrastructure development that will strengthen Europe as a leader in global research cooperation over the coming decades.

Johannes Gutleber

OPENING SCIENCE TO THE WORLD; OPENING THE WORLD TO SCIENCE

'Engaging the research community towards an Open Science Commons' was the main theme of the European Grid Infrastructure (EGI) annual conference that was held in Lisbon from 18 to 22 May. At the conference, the EGIEngage project was launched and the European Open Science Cloud was discussed.



Tiziana Ferrari, technical director of EGI.eu, speaks at the EGI Annual conference in Lisbon this year.

The EGIEngage project was launched during the opening session of the conference by Tiziana Ferrari, technical director of EGI.eu. This project, which has been funded through the EU's Horizon 2020 Framework Programme for Research and Innovation, aims to accelerate progress towards the implementation of the Open Science Commons. It seeks to do so by expanding the capabilities of a European backbone of federated services for computing, storage, data, communication, knowledge and expertise, as well as related community-specific capabilities.

"Federation is important because science is inherently distributed," said Ferrari. "The next two years will offer a great opportunity to further the development of the digital European Research Area, where a vital role is played by the Open Science Commons that provide services for the 'long tail' of research. My wish is that we will be able to eliminate many of the technical barriers that currently exist for researchers wishing to use e-infrastructures to support their work."

This very broad vision for the Open Science Commons was also echoed by Sergio Bertolucci, Director for Research and Computing at CERN. "CERN has a long tradition of open science," he said. "Open science is connected to open data, and the LHC experiments have clear policies regarding open access to research data." Bertolucci also

emphasised the success of Zenodo and the CERN Open Data Portal: “Open access is a logical next step and CERN is well placed to engage the high-energy physics community and exploit its link to the EIROforum.”

One way to support the transition to open science, and thus make the most of today’s data-driven research, is the European Open Science Cloud initiative, which was also discussed at the EGI conference. Earlier this year, CERN published a paper proposing the establishment of a European Open Science Cloud that will enable digital science by introducing ‘IT as a service’ to the public research sector in Europe. This paper calls for a hybrid model that brings together public

research organisations and e-infrastructures with commercial suppliers to build a common platform that offers a range of services to Europe’s research communities.

At the conference, CERN’s Bob Jones, the primary author of the paper, chaired a session focused on analysing the opportunities and barriers related to crossborder procurement of e-infrastructure services. Jones, who is head of the Externally Funded Projects section within the CERN IT Department, highlighted the work carried out through the Helix Nebula Initiative and the PICSE (Procurement Innovation for Cloud Services in Europe) project in developing a procurement model that could enable research collaborations to collectively

acquire services to support their research agenda. “The Grid has worked beautifully, and this has been fundamental to the success of the LHC’s first run,” said Bertolucci. “Today, it is still more cost effective to operate our own facilities for LHC computing, but this situation is expected to change... We think that a hybrid approach that puts together grids and clouds is the future for LHC computing.”

For more information, visit the iSGTW webpage at: <http://cern.ch/go/WC9H>.

Andrew Purcell

PLASTIC FISH

In terms of weight, the plastic pollution in the world’s oceans is estimated to be around 300,000 tonnes. This plastic comes from both land-based and ocean-based sources. A lecture at CERN by chemist Wolfgang Trettnak addressed this issue and highlighted the role of art in raising people’s awareness.



Artwork by Wolfgang Trettnak.

Packaging materials, consumer goods (shoes, kids’ toys, etc.), leftovers from fishing and aquaculture activities... our oceans and beaches are full of plastic litter. Most of the debris from beaches is plastic bottles. “PET bottles have high durability and stability,” explains Wolfgang Trettnak, a chemist by education and artist from Austria, who gave a lecture on this topic organised by the Staff

Association at CERN on 26 May. “PET degrades very slowly and the estimated lifetime of a bottle is 450 years.” In addition to the beach litter accumulated from human use, rivers bring several kilos of microplastics to the sea every day. Many toxic substances are accumulated or absorbed by plastic debris. They include polychlorinated biphenyls (PCBs), pesticides (e.g. DDT) and polycyclic aromatic hydrocarbons (PAHs); these substances can all be carcinogenic and mutagenic.

The scenario is frightening. Plastic, easily confused with jellyfish or plankton, is ingested by fish, turtles, other marine animals and even birds. “In March 2012, a sperm whale was found dead on a beach in Granada, Spain,” explains Wolfgang Trettnak. “The whale had ingested 30 square metres of transparent plastic.”

Unfortunately, plastic in the oceans also comes from containers lost deep in the sea. “This is something that can hardly be controlled,” says Wolfgang Trettnak. “However, we can do a lot by changing people’s habits. About 80% of the total amount of plastic waste that impacts the marine environment comes from land-based sources, with beach tourism being one of them.”

Trettnak, who has dedicated the last ten years of his life to producing artwork inspired by science, believes that art is a very effective way of raising awareness about this problem worldwide. “I have exhibited my artwork in several venues around the world,” he confirms. “With my paintings one can easily visualise what I mean by ‘plastic fishes.’”

See the slideshow:



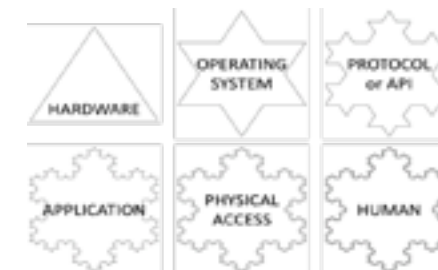
Antonella Del Rosso

Computer Security

THE DILEMMA OF FRACTAL DEFENCE

Aren’t mathematical fractals just beautiful? The Mandelbrot set and the Julia set, the Sierpinski gasket, the Menger sponge, the Koch curve... Based on very simple mathematical rules, they quickly develop into a mosaic of facets slightly different from each other. More and more features appear the closer you zoom into a fractal and expose similar but not identical features of the overall picture.

Computer security is like these fractals, only much less pretty: simple at first glance, but increasingly complex and complicated when you look more closely at the details. The deeper you dig, the more and more possibilities open up for malicious people as the attack surface grows, just like that of “Koch’s snowflakes”, where the border length grows exponentially.



Consequently, the defensive perimeter also increases when we follow the bits and bytes layer by layer from their processing in the CPU, trickling up the software stack through the operating system via (network) protocols and APIs to user-friendly applications, up to the human “wetware” with his/her initial “Eureka”-type moment.

While this abstraction helps us make our life easier and hides the complexities of computer hardware and hardware-close computing languages, each layer adds up to form our defensive perimeter and makes any defence more difficult. The “higher” we move, the more difficult defence becomes, and the easier it is for an attacker to break in.

At the innermost layer, the CPU and RAM level, complexity makes the detection of sophisticated attacks impossible. Researchers for Google have shown recently how to manipulate RAM information by repeatedly flipping bits. Dissecting the chips in order to identify hardware manipulations doesn’t help us. We just have to assume that nobody has tampered with our hardware... (or have they?).

Moving up, software is known to be vulnerable! At the application and operating system layers, defence is even more difficult, as the number of lines of code (LOC) is huge. An early study stated that in each 1000 LOC, there are on average 10 to 20 defects (Steve McConnell in “Code Complete”, 1993). Thus, bugs are discovered regularly; vulnerabilities are reported repeatedly. “Open source” software might be better in that respect, but still, who can scrutinise millions of lines of code? How do we ensure that the compiler doesn’t screw up (as exposed by Ken Thompson in “Reflections on Trusting Trust”)?

Interfaces (APIs) and protocols, the next layer of defence, are no better. Their code base is already enormous and prevalent everywhere. The Internet Protocol (IP) is just one example. The initial implementations of IPv4 were flawed, but at least many of its weaknesses were known and subsequently corrected. Now upcoming is IPv6 with no additional defences, unknown vulnerabilities, and the unfortunate guarantee that new bugs are introduced as old code is ported to IPv6.

And finally, attackers targeting us humans or our devices easily get through. Our human “defence” can be broken, either through persuasion, deception or assault on the victim. Being generally kind and sometimes naïve and convincing yourself to do what the attacker wants (“social engineering”) makes it easy to get past our defences. Attackers target the multiple devices we own nowadays, i.e. laptops, smartphones, tablets, by stealing or manipulating them...

Thus, welcome to the dilemma of fractal defence. We need you to help protect CERN! We should at least get the basic defences right:

- Protect your computers: any unprotected computer connected to the Internet is likely to be infected within minutes. Keep your system up-to-date, use anti-virus software (provided for free by CERN), do not install untrusted software and lock your screen with a password when you leave your office.

- Be careful with e-mail and the web as cybercriminals are trying to trick you. Stop - think - click: do not open unexpected or suspicious e-mails or attachments and do not install untrusted plug-ins.

- Protect your passwords: exposing them might lead to abuse of your computing account. Never share your passwords with anybody. A good password should be hard to guess and not found in any dictionary. Do not reuse old passwords and have different ones for different purposes or for different sites. Change them all regularly as they might have been exposed without you knowing it.

- Protect your data. Restrict access to your documents and folders, and follow the principle of least privilege: ensure that only people who need to access your files and data can do so.

Finally, make “computer security” a small part of your daily life - here at CERN as well as at home! Try to subconsciously think of doing IT the secure way whenever you touch a keyboard, mouse or touchscreen. Remember that in the open academic environment of CERN, “computer security” has been delegated to you. You are, in the first instance, responsible for the security of the laptops, smartphones and PCs that you use, your accounts and passwords, your files and documents, the programs and applications you have installed or, particularly, those you have written, and the computer services and systems you manage. The Computer Security team is ready to help you assume this responsibility. Alternatively, you can turn to the IT department, which provides a multitude of secured computing services.

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

BYSTANDERS, YOU CAN HAVE A ROLE TOO

If you find yourself repeatedly witnessing a situation of inter personal conflict or tension between other colleagues, you have a choice: you can either turn a blind eye to it or you can try to help. In the latter case, you may wish to get another perspective or some guidance before taking steps.

Stefan, Paul and Lucas work together on a challenging project. Over time, Lucas has started to notice Paul's verbally aggressive behaviour towards Stefan: he frequently criticises him in public, cuts him short at meetings when he is trying to make his point and is known to make derogatory remarks about him behind his back. Stefan does not seem to react but the tension between them is evident and Lucas feels increasingly uncomfortable in their company.

It is never easy to know whether or not to intervene in these delicate situations, and the 'bystander effect' - where people do nothing - tends to prevail in most workplace cultures. Bystanders hesitate to act because they fear embarrassment, a loss of relationship or even retaliation. In some cases, they may even doubt their own interpretation of the situation, in particular if nobody else seems to react, and fear that if they intervene, they may be perceived to be transgressing community norms. Yet if these situations are allowed to continue, they could risk deteriorating into examples of bullying behaviour where

one person takes advantage of a perceived imbalance of power to intimidate, coerce or threaten another, undermining the latter's self-confidence and causing them to feel humiliated and suffer demotivation and stress.

Lucas decides that he must do something and contacts the Ombud, who works with him to clarify various options for action. He then chooses a strategy by which he will try to help his colleagues to improve the situation. He talks individually to each of his colleagues, giving them both specific examples of the behaviours in question, as well as the corresponding reactions, both of which he attributes to an apparent power dynamic, and explains why he considers these exchanges to be inappropriate. He then offers them both his support in order to improve their relationship and also reminds them of the various Organizational resources that are available to help them to resolve their issues.

By pointing out "the elephant in the room" in this way, bystanders can take a stand on what they consider to be inappropriate

behaviour and have a positive influence on their workplace. They can help to put a stop to rude or abusive behaviour, off-colour jokes, offensive stereotyping, public criticism, gossip and a myriad of other micro-inequities by simply not allowing this to continue in their presence. If they feel a lack of competence or uncertainty about what to do, they should not hesitate to talk the matter through with the Ombud, in all confidentiality, in order to work out for themselves the most constructive course of action.

By holding up a mirror to their colleagues, bystanders can effectively encourage them to acknowledge the negative impact of their behaviour and to bring about a change in their environment gradually. By holding up a mirror to themselves, they can recognise their own responsibility in choosing whether to keep silent or take appropriate action.

This is just one of the many ways we can all work together to keep our Code of Conduct alive!

All previous Ombud's Corners can be accessed in the Ombud's blog: <http://cern.ch/go/P8Dm>.

Sudeshna Datta-Cockerill

MATTHIEU CATTIN (1982 - 2015) HERVÉ MILCENT (1965 - 2015)

Hervé Milcent and Matthieu Cattin lost their lives in an avalanche in the Becs de Bosson area of Valais, Switzerland, on Sunday, 12 April. These two mountain sport enthusiasts were clearly very dear to many people, including all those who came to say a final farewell at their funerals, in Thoiry (the Ain) and Breuleux (Jura) respectively.



Hervé Milcent.

Hervé arrived at CERN in 1988 under the *coopérant* scheme (professional work in lieu of French military service) to work on data acquisition systems for the LEP detectors, and was recruited as a staff member in 1996 in the Controls (ECP) group, which later became IT-CO, to work on the control systems for ALICE. Then he joined the LHC-IAS group and was awarded an indefinite contract. Many of the LHC's monitoring systems owe much of their success to Hervé, who worked assiduously to test and check everything to ensure that all the systems worked from the moment they were put into action. Around the same time, Hervé joined the ski touring section of the CERN Ski Club and soon became its leader. Shortly afterwards, he was elected President of the Ski Club, a role he held for

six years. He led the Club with rigour and commitment, working tirelessly for the safety of its members and volunteer instructors.

In his work as a project leader and section leader, as well as through his involvement in the Ski Club, his leadership talents came to the fore; he was able to create bonds and motivate the people he worked with. He was always supportive but knew when to let people take the initiative. He never hogged the limelight and, despite his many responsibilities, always seemed surprised when he was credited with the success of his projects. Whenever we think of Hervé, his friendly and warm smile will always be there.

Generous and modest Matthieu worked in the BE department on electronic designs for the accelerator control system. He was the controls coordinator for the AD and ELENA. All those who knew Matthieu speak of him with affection and often with admiration. He was a supportive colleague and a true

friend to all those he had worked with since his arrival at CERN in 2005. He was welcoming and always ready to help. Matthieu was very sporty, coming to work every day by bike, in the rain, wind or snow, sometimes arriving soaked to the bone: nothing could stop him. Just like Hervé, Matthieu was a big fan of mountain sports. After joining the Ski Club in February 2015, he quickly began to enjoy the ski touring outings. From time to time he liked to slip away from the group to find his own routes through the trees.

Both men loved life and valued friendship, and their friends have many unforgettable memories of them.

At this time, our thoughts are first and foremost with their families and loved ones: Hervé's wife Isabel and their two daughters, Elisa and Sofia, and Matthieu's parents and Julia. Our community works as a team; we come together at difficult moments like this and show solidarity in the face of tragedy.

Their colleagues and friends

Matthieu Cattin.



Official news

108TH ACCU MEETING

Agenda for the meeting to be held on **Tuesday, 9 June 2015** at 9.15 a.m. in room Georges Charpak (Room F, 60-6-015):

1. Chairperson's remarks
2. Adoption of the agenda
3. Minutes of the previous meeting
4. Report on services from GS Department
 - a. General Services
 - b. Collaboration between CERN and HUG
5. Report on services from IT Department
6. 50th anniversary of the CERN Bulletin
7. News from the CERN Management
8. Progress on Health Insurance for Users
9. Users' Office News
10. Reports from ACCU representatives on other Committees
 - a. Restaurants' Supervisory committee
11. Matters arising
12. Any Other Business
13. Agenda for the next meeting

Anyone wishing to raise any points under "Any Other Business" is invited to send them to the Chairperson in writing or by e-mail to **ACCU.Secretary@cern.ch**.

Michael Hauschild (Secretary)

ACCU is a forum for discussion between the CERN Management and representatives of the CERN Users in order to review the practical means taken by CERN to support the work of Users of the Laboratory. The User Representatives to ACCU are:

- **Austria** M. Jeitler (manfred.jeitler@cern.ch)
- **Belgium** M. Tytgat (michael.tytgat@cern.ch)
- **Bulgaria** N.N.
- **Czech Republic** S. Nemecek (Stanislav.Nemecek@cern.ch)
- **Denmark** J.B. Hansen (Jorgen.Beck.Hansen@cern.ch)
- **Finland** K. Lassila-Perini (Katri.Lassila-Perini@cern.ch)
- **France** F. Ferri (Federico.Ferri@cern.ch) and A. Rozanov (Alexandre.Rozanov@cern.ch)
- **Germany** A. Meyer (andreas.meyer@cern.ch) and I. Fleck (fleck@hep.physik.uni-siegen.de)
- **Greece** D. Sampsonidis (Dimitrios.Sampsonidis@cern.ch)
- **Hungary** V. Veszprémi (Viktor.Veszpremi@cern.ch)
- **Israel** E. Etzion (Erez.Etzion@cern.ch)
- **Italy** C. Biino (Cristina.Biino@cern.ch) and C. Troncon (Clara.Troncon@cern.ch)
- **Netherlands** G. Bobbink (Gerjan.Bobbink@cern.ch)

- **Norway** K. Røed (Ketil.Roed@cern.ch)
- **Poland** K. Bunkowski (Karol.Bunkowski@cern.ch)
- **Portugal** P. Barao (Fernando.Barao@cern.ch)
- **Romania** G. Stoicea (Gabriel.Stoicea@cern.ch)
- **Serbia** D. Lazic (Chair, Dragoslav.Lazic@cern.ch)
- **Slovak Republic** A. Dubnicková (Anna.Dubnickova@cern.ch)
- **Spain** S. Goy (Silvia.Goy@cern.ch)
- **Sweden** E. Lytken (Else.Lytken@cern.ch)
- **Switzerland** M. Dittmar (Michael.Dittmar@cern.ch)
- **Turkey** B. Demirkoz (Bilge.Demirkoz@cern.ch)
- **United Kingdom** M. Campanelli (Mario.Campanelli@cern.ch) and H. Hayward (helen.hayward@cern.ch)
- **Non-Member States** E. Torrence (Eric.Torrence@cern.ch); B. Demirkoz (Bilge.Demirkoz@cern.ch); M. Sharan (manoj.kumar.sharan@cern.ch); N. Zimine (Nikolai.Zimine@cern.ch)
- **CERN** E. Auffray (Etiennette.Auffray@cern.ch) and M. Ferro-Luzzi (Massimiliano.Ferro-Luzzi@cern.ch)

The CERN Management is represented by Rolf Heuer (Director-General), Sergio Bertolucci (Director for Research and Computing), Sigurd Lettow (Director for Administration and General Infrastructure). The Physics Department is represented by Catherine Decosse, Cecile Granier and Doris Chromek-Burckhart (Head of the Users' Office), the Human Resources Department by Ingrid Haug, the General Infrastructure Services Department by Reinoud Martens, the Information Technology Department by Mats Moller, the Occupational Health Safety and Environmental protection unit by Ralf Trant, and the CERN Staff Association by Michel Goossens.

Secretary: Michael Hauschild.

Other CERN Staff members attend as necessary for specific agenda items. Anyone interested in further information about ACCU is welcome to contact the appropriate representative, the Chairperson or the Secretary (73564 or **ACCU.Secretary@cern.ch**).

<http://cern.ch/ph-dep-ACCU/>

NEXT INDEFINITE CONTRACT REVIEW EXERCISE

Dear Colleagues,

We are pleased to inform you that the 2015 LD2IC exercise (selection process for the conversion of limited-duration contracts into indefinite contracts) has been officially launched.

The vacancy notices for posts opened with a view to the award of indefinite contracts will be published on 3 August 2015 for a period of four weeks (until 31 August 2015).

The CERN Contract Review Boards (candidate interviews) will be held between the end of September and mid-November.

The LD to IC procedure, Frequently Asked Questions (FAQ) and a calendar for the exercise are now available in the Admin e-guide.

In addition, general information sessions on the procedure will be organised for candidates on the following dates:

Date	Time	Place
Tuesday, 28 July	14:00-15:00	CERN Training Centre (Building 593) room 11 (Meyrin)
Tuesday, 4 August	14:00-15:00	Building 864/1-002 BE Auditorium (Préessin)
Thursday, 6 August	14:00-15:00	CERN Training Centre (Building 593) room 11 (Meyrin)
Thursday, 13 August	14:00-15:00	Building 864/1-002 BE Auditorium (Préessin)
Tuesday, 18 August	14:00-15:00	CERN Training Centre (Building 593) room 11 (Meyrin)
Thursday 27 August	14:00-15:00	CERN Training Centre (Building 593) room 11 (Meyrin)

We would like to remind you that all staff members holding a limited-duration contract who have successfully completed their probation period at the time of application and who meet the eligibility criteria in the vacancy notices (VNs) are eligible to apply for posts for the award of an indefinite contract.

Should you have any questions regarding this exercise, please do not hesitate to contact your Human Resources Advisor for further advice.

HR Department

Take note

TRAFFIC MODIFICATIONS ON ROUTES RUTHERFORD, DEMOCRITE AND FERMI

The GS Department would like to inform you that **until the end of December**, the construction of Building 245 will result in the following traffic modifications:

1. Traffic on Route Rutherford will be partially restricted in front of the construction site,
2. Traffic on Route Democrite will be one-way towards Route Rutherford.

Also, please note that due to construction work in front of Building 377, Route Fermi will be closed **from Wednesday, 10 June until Friday, 7 August**.

Thank you for your understanding.

A POWERFUL SEARCH FOR EDMS 6

Since the end of May, EDMS 6 has featured a brand new search solution. You might have already noticed the changes if you have run the search recently. We have integrated EDMS with the central CERN Search service, allowing EDMS to benefit from the central engine for queries and CERN search from EDMS public data, which can now be found directly via the CERN Search portal. The integration is a result of a very successful collaboration between the EDMS and the CERN Search teams.

What's new in EDMS search

The most important advantage of the new search is enabling searches in the files. While in the old search you could query only the document metadata, now the search also scans the content of the files attached to the documents. This allows for more relevant results, as the hit may be found both in the metadata or in the file. The result is displayed in the Documents & Files tab and the small icon indicates whether the object in which the queried terms were found is a file or a document.

The search view layout has evolved. We have added horizontal tabs to organise the results according to object types and display them at a glance. The global search is performed on all EDMS and CMMS (CERN Maintenance Management System) objects. The result is then

displayed in the tab matching the object type. The Documents & Files tab comes with an additional enhancement: the display includes fragments of the text context with the query terms conveniently highlighted.

The advanced search for documents was redesigned to allow users to make fine-tuned, specific queries. The possibility to customise the results layout should satisfy the needs of any detailed searches.

We wish you happy EDMS searching!

EDMS & CERN Search Teams

CERN ACCELERATOR SCHOOL: INTENSITY LIMITATIONS IN PARTICLE BEAMS | 2-11 NOVEMBER

Registration is now open for the CERN Accelerator School's specialised course on Intensity Limitations in Particle Beams, to be held at CERN between 2 and 11 November 2015.

This course will mainly be of interest to staff in accelerator laboratories, university departments and companies manufacturing accelerator equipment.

Many accelerators and storage rings, whether intended for particle physics experiments, synchrotron light sources or industrial applications, require beams of high brightness and the highest possible intensities. A good understanding of the possible limitations is required to achieve the desired performance.

The programme for this course will cover the interaction of beams with their surroundings, with other beams and further collective effects. Lectures on the effects and possible mitigations will be complemented by tutorials.

Further information can be found at:

- <http://cern.ch/go/WC9H>
- <http://cern.ch/go/c8SM>

Training

“COMMUNICATION: SCIENCE OR ART?” – WHAT’S NEW?

The story so far... In January this year the Learning and Development Group launched a series of workshops under the umbrella “Communication”. The first of these workshops entitled “Communication: Science or Art?”, covers the fundamentals of communication and starts by raising awareness of different communication styles and the impact these styles can have on you and those around you!



Four workshops (in both English and French) have already taken place and more are scheduled this autumn. The workshops are highly participative and engaging with an emphasis on providing practical tools and tips for everyday life here at CERN.

Hear is what participants are saying:

“Trainer very experienced, great atmosphere, very well structured training”; “Very useful to remind me that not all people communicate in the same way, and to keep high my awareness level”; “Excellent Course!”

Want to find out more? If you are a newly appointed staff member on a Limited Duration contract or have been in the Organization for a long time and need a refresher, please talk to your supervisor for more information or consult the CERN Training Catalogue.

SAFETY TRAINING: PLACES AVAILABLE IN MAY AND JUNE 2015

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

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

Please find below the courses in the field of technical management scheduled up to the end of 2015 and which have places available.

Upcoming Technical Management courses (in chronological order)

	Language	Next Session	Duration	Availability
Procurement of supplies at CERN up to 200 000 CHF – e-learning	English	n/a	1 hour	n/a
Achats de fournitures au CERN jusqu'à 200 000 CHF – e-learning	français	n/a	1 hour	n/a
Project Engineering	English	29-30 June	2 days	3 places
Building up a good Marie Skłodowska-Curie project and writing a successful proposal	English	1-2 July	2 days	15 places
Selecting the right person for CERN	English	9 July	1 day	2 places
Selecting the right person for CERN	English	17 September	1 day	8 places
Building up a good Marie Skłodowska-Curie project and writing a successful proposal	English	22/23 September	2 days	18 places
Procurement and Contract Management of Supplies	English	25 September	1 day	3 places
Introduction to knowledge transfer tools	English	1 October	4 hours	24 places
Selecting the right person for CERN	English	8 October	1 day	12 places
Dealing with Media questions!	English	8 October	1 day	10 places
Dealing with Media questions!	English	9 October	1 day	10 places
PMI Project Management	English	12/13 October – 5/10 November	4 days	9 places
Project Scheduling and Costing	English	13/14 October	2 days	1 place
Managing by Project GPM	English	21/22 October	2 days	8 places
Risk Management	English	5/6 November	2 days	10 places
Selecting the right person for CERN	English	12 November	1 day	12 places
Project Engineering	English	18/19 December	2 days	11 places

For more details about a course and to register, please go to the Training Catalogue at <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.

Seminars

THURSDAY JUNE 11, 2015

14:15 A&T Seminar: **Nuclear science at Los Alamos** Kjell Johnsen Auditorium

16:30 CERN Colloquium: **Cost-Benefit Analysis of the LHC to 2025 and beyond: Was it Worth it?** Council Chamber

FRIDAY JUNE 12, 2015

11:00 Detector Seminar: **Simulation of Silicon detectors using TCAD and Monte-Carlo methods** Salle Bohr

TUESDAY JUNE 16, 2015

08:30 Safety: **Formation "Délégué à la sécurité territoriale (TSO) - Initial"** 6959/R-002

11:00 EP Seminar: **Neutrino Physics without Neutrinos: Recent results from the NEMO-3 experiment and plans for SuperNEMO** Main Auditorium

FRIDAY JUNE 19, 2015

11:00 Detector Seminar: **A new Beam Halo Monitor system for CMS: Development, Installation and First Beam results** Salle Anderson

TUESDAY JUNE 23, 2015

11:00 LHC Seminar: **Seminar on CMS results** Main Auditorium