CERN Bulletin

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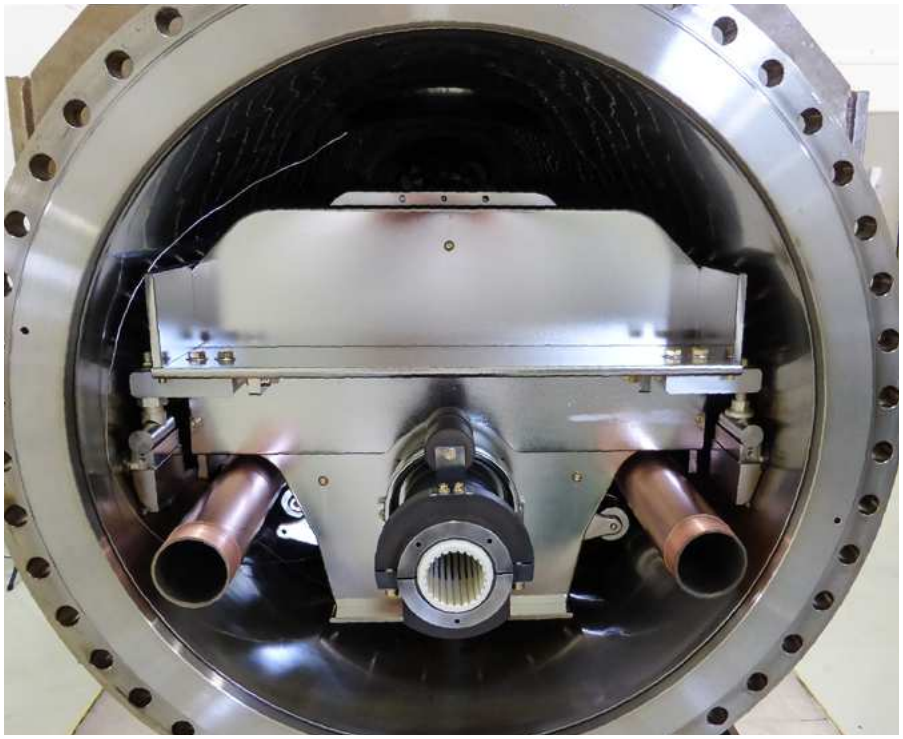
PARTICLE KICKERS

These devices are designed to provide a current pulse of 5000 Amps which will in turn generate a fast magnetic pulse that steers the incoming beam into the LHC. Today, the comprehensive upgrade of the LHC injection kicker system is entering its final stages. The upgraded system will ensure the LHC can be refilled without needing to wait for the kicker magnets to cool, thus enhancing the performance of the whole accelerator.



An upgraded kicker magnet in its vacuum tank, with an upgraded beam screen.

The LHC is equipped with two kicker systems installed at the injection points (near points 2 and 8, see schematic diagram) where the particle beams coming from the SPS are injected into the accelerator's orbit. Each system comprises four magnets and four pulse generators in which the field rises to 0.12 Tesla in less than 900 nanoseconds and for a duration of approximately 8 microseconds. Although the injection kickers only pulse 12 times to fill the LHC up with beam, the LHC beam circulates through them constantly.

Kickers are hugely complex magnets that need to be protected from the electromagnetic effects induced by the beams. "Each magnet is equipped with a beam screen placed in the aperture," explains Mike Barnes, member of the Accelerator Beam Transfer (ABT) group in the Technology department and leader of the upgrade programme of the LHC injection kicker magnets. "The initially implemented beam screen worked well at low-intensity beams. However, as the operation of the LHC moved towards increasingly higher intensity beams, stable for many hours at a time, some of the kickers started to over-heat."

(Continued on page 2)

FRAUD: ZERO TOLERANCE AT CERN

In this week's *Bulletin*, you'll read that fraudulent activities were uncovered last year by our Internal Audit Service. CERN has a very clearly defined policy in such cases: we base our efforts on prevention through education, we have a policy of protecting those reporting fraud from recrimination, and we have a zero-tolerance policy should fraud be uncovered.

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In this issue

News

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A word from the DG

(Continued from page 1)

FRAUD: ZERO TOLERANCE AT CERN

I don't intend to enter into the details of what occurred, but I'd like to remind you that fraud is a very grave business, and something we take extremely seriously.

What do we mean by fraud at CERN? Operational Circular No. 10 on *"Principles and procedures governing the investigation of fraud"* defines fraud in terms of any deception intended to benefit the perpetrator, or a third party, that results in a loss to the Organization. This loss can be to funds, property or reputation.

Thankfully, fraud at CERN is a rare occurrence, but we should never be complacent. So please take the time to familiarise yourselves with OC10 and, should you have any doubts, talk to your hierarchy, the head of the HR Department, or the Internal Audit Service.

While what occurred is deeply regrettable, it has allowed us to identify the weak spots that allowed such fraud to happen, and therefore help to ensure that a similar incident will be less likely in the future.

Rolf Heuer

PARTICLE KICKERS

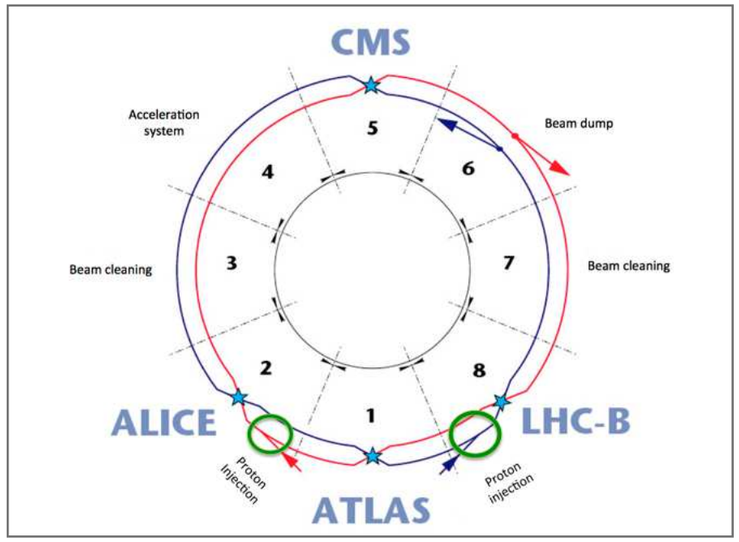
(Continued from page 1)

Indeed, when the temperature of the magnet yoke exceeds 120˚C, the strength of the kick diminishes and the mis-kicked injected beam can cause quenches of several superconducting magnets. Hence, the use of an interlock which inhibits injection if the measured yoke temperature is above specified thresholds. On about ten occasions over the course of 2012, after a series of long fills, it was necessary to wait longer than an hour before the LHC could be refilled to allow the cool-down of a kicker magnet. Therefore, in order to mitigate this effect, the experts of the ABT group upgraded the kicker beam screen by increasing the number of screen conductors. This resulted in reduced beam-induced heating of the magnet yoke while still preserving the fast performance of the whole system. "The studies for the upgrades, implementation of the results and the re-installation of the magnets have required good collaboration of many CERN teams, including BE-ABP, BE-BI, BE-RF, EN-HE, EN-MEF, EN-MME, TE-VSC, TE-ABT-EC and TE-ABT-FPS," says Barnes. "During LS1, the eight kicker magnets have been removed from the tunnel and upgraded. Following the upgrade work, each magnet is carefully aligned, in a clean room, baked out to 300˚C, and high voltage conditioned."

The first six kicker magnets have now been reinstalled in the tunnel, four at point 2. The work there will now move into a new phase, requiring bake-out of the interconnects, commissioning of the kicker magnet controls, high-voltage testing of the kicker systems, and then tests from the CCC. The installation of the remaining two kicker magnets at point 8 will be completed at the end of August.

Antonella Del Rosso

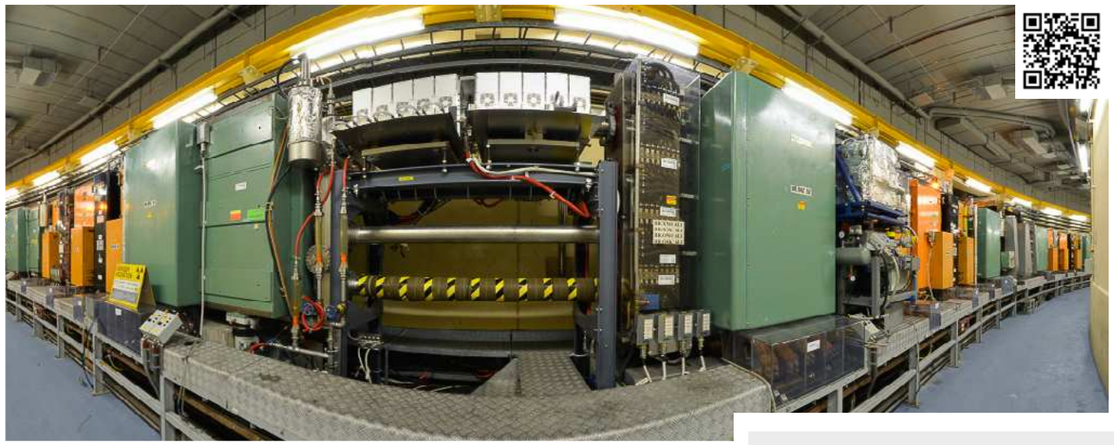
Experts of the TE-ABT group are working on the upgrade of the kicker magnets. In this picture, they have just removed the ceramic tube that contains the screen conductors from the magnet.



Schematic diagram of the LHC sectors. The kicker magnets are installed at the injection points near points 2 and 8 (see small circles).

LS1 REPORT: FIRST BEAMS IN THE BOOSTER

On Monday, 2 June, the Operations Group injected the first beams into the PS Booster (PSB). The PSB, the second machine in the LHC injector chain to be recommissioned (Linac2 was the first), also provides beams for non-LHC experiments, some of which will need beams for physics as early as this summer.



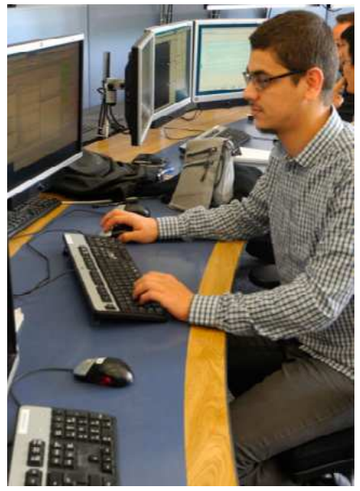
The PS Booster.

The Operations Group has been back in control of the PS Booster for a month now, having taken over where the engineers and experts of the EN Department, who were responsible for the maintenance work, left off. The group first ran tests with no beam (known as "cold check-out") to check and requalify all the machine instrumentation, from the control room to the ring itself. Now in beam mode, the Booster is being prepared both to begin supplying the PS at the end of June and, above all, for physics to restart in the ISOLDE experimental area.

"We have around 15 types of beams to 'prepare'," explains Klaus Hanke, Booster Section Leader within the Operations Group. "We actually produce different beams – in terms of the intensity of the proton bunches, the beam size, the time structure – for the LHC and the whole non-LHC physics programme, and we supply the ISOLDE facility directly." Of course, each of these beams requires a specific injector setup and the right settings have to be found once again after a technical stop of almost a year and a half. "In addition, numerous renovations have been carried out on the PSB and some of its components have been replaced," Hanke stresses. "So we have to re-parameterise the machine, with the aim of finding the right settings for each beam."

While some debugging was obviously needed during the cold check-out phase, the injection of the first beams on Monday, 2 June went relatively smoothly. The various teams, in particular those in charge of operations, radiofrequency and instrumentation, are now adjusting the settings for beam acceleration and beam extraction to the PS, which should take place in a few weeks. ISOLDE, though, the only experimental area directly connected to the PSB, will be the first user to receive its beams. With physics set to restart in mid-July, the facility will need proton beams very soon.

Anaïs Schaeffer



The PS Booster console in the CERN Control Centre.

Meanwhile, elsewhere...

At the LHC, the SMACC project teams, who celebrated reaching the end of the superconducting cable splice consolidation phase on 27 May, have already closed almost all the W bellows and carried out more than 80% of the leak tests across the whole machine.

Other tests are also being done at the LHC: the magnets are currently undergoing a series of warm tests, and short-circuit tests on the water-cooled cable systems and quench protection systems are under way. As regards the R2E project, the first installations have already been recommissioned and pressure tests have just been completed in Sector 2-3. Next up are Sectors 5-6, 7-8, 3-4 and 4-5.

The temperature of Sector 6-7 has passed below the 80 K threshold, meaning that the teams can once again work in the area. Between 300 K (room temperature) and 80 K, the machine is subject to severe stress as a result of the cooling process, so access is suspended for safety reasons during the cooling phase. Its current thermal stability has notably enabled the surveyors to check the alignment of the magnets, which are sensitive to changes in temperature.

In the SPS, the reinstallation of long straight section 1 (LSS1) went well. However, tests revealed a leak in the bellows of the QDA magnet, which was brought to the surface earlier in the week for repair.

A SEARCH ENGINE TO FIND THE BEST DATA?

What if you could see your experiment's results in a "page rank" style? How would your workflow change if you could collaborate with your colleagues on a single platform? What if you could search all your event data for certain specifications? All of these ideas (and more) are being explored at the LHCb experiment in collaboration with Internet giant Yandex.

As the leading search provider in Russia, with over 60% of the market share, Yandex is to East what Google is to West. Their collaboration with CERN began back in 2011, when Yandex co-founder Ilya Segalovich was approached by then-LHCb spokesperson Andrei Golutvin. "Just as Yandex's search engines sift through thousands of websites to find the right page, our experimentalists apply algorithms to find the best result in our data," says Andrei Golutvin. "Perhaps the technique used to rank webpages could also be applied to ranking data?"

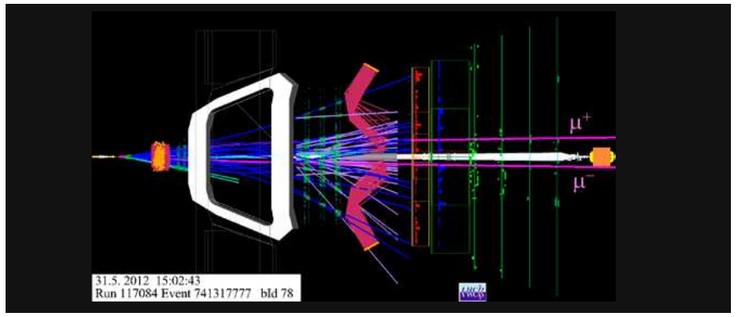
It was an idea that Yandex decided to put to the test, and they are now collaborating with the Organization under the auspices of CERN openlab. Yandex has developed an event search and selection algorithm in collaboration with the LHCb experiment. This algorithm uses the patented MatrixNet machine learning technology, building upon previous experiences to create more relevant results. The algorithm appears particularly suited to searching for extremely rare events (like the one shown in the picture) and is now being used in several analyses to help improve selection performance, challenging standard statistical techniques.

However, Yandex's most useful development came as a surprise: "We found that it was not the algorithm itself that gave an advantage, but rather the user-friendly interface we developed to go with it," says Andrey Ustyuzhanin, Yandex employee and member of the LHCb collaboration. "It allows scientists to easily interact as they work together on the same data set. The platform is a functional Wikipedia, if you will, where you can perform complicated computational tasks and share the results with others." Furthermore, the interactive platform is not limited to Yandex algorithms, as any event selection process can be used.

Although still at an early stage, Yandex encourages CERN's experiments to explore the potential of their platform. "Such a platform can be a much more efficient way to collaborate," explains Ustyuzhanin. "By uniting the analysis process, in the spirit of open science, scientists can share ideas to improve codes or even re-use the same analysis software on a different data set. Even if our particular platform isn't used, our hope is that more experiments consider this virtual model of collaboration."

But that's not all. As Yandex's collaboration with the Organization continues to expand, more and more avant-garde ideas are being explored. Could we create a search tool that scans data for a particular type of event? How about a platform that demonstrates how results can improve based on different analyses? Could we automate the improvement of analysis algorithms to reflect ever-changing conditions? All that and more is on the drawing board.

Katarina Anthony



An extremely rare $B^0_s \to \mu\mu$ decay candidate event observed in the LHCb detector.

SMOKE WITHOUT FIRE

Members of the CERN Management recently visited the LHC mock-up at the Safety Training Centre on the Prévessin site. They experienced a realistic emergency simulation, complete with smoke generators and safety alarms.

Since 2013, the Prévessin Safety Training Centre has been equipped with an LHC tunnel mock-up around 40 m long, where the working and safety conditions faced in the tunnel can be replicated. Throughout the year, this life-size mock-up plays host to numerous CERN and external contractors' personnel for certain safety training courses, including in particular the 'Self-Rescue Mask' and 'Radiation Protection – Controlled Area' courses. The CERN firefighters also use it as part of their continuous on-the-job training.

The safety course held on 26 May welcomed VIP participants: Rolf Heuer (Director-General), Sigurd Lettow (Director for Administration and General Infrastructure), Sergio Bertolucci (Director for Research and Computing) and Frédérick Bordry (Director for Accelerators and Technology) were all there, accompanied by, amongst others, Doris Forkel-Wirth (Radiation Protection Group Leader), Gianni Deroma (Fire and Rescue Service Group Leader) and Christophe Delamare (GS-ASE Group Leader). They all had the chance to see and try out the mock-up during an official visit to the Prévessin Safety Training Centre. Under the watchful eye of Gilles Colin, an instructor and firefighter, and Christoph Balle, the Safety Training Section Leader, they experienced a "hazardous" situation: a (simulated) ruptured valve leading to a (simulated) helium leak, recreated using pressurised smoke generators. Emergency situations that could occur in the accelerator tunnel can be reproduced very faithfully in the training centre's mock-up, which is equipped with the same safety systems as the real tunnel – rotating lights, evacuation alarms, information signs, access doors, etc. – and this realism helps people to develop good safety reflexes.

Anaïs Schaeffer

Simulated helium leak in the LHC mock-up, at the Safety Training Centre on the Prévessin site.

CERN'S ANTI-FRAUD POLICY – THE OUTCOME OF FRAUD INVESTIGATIONS

In the framework of CERN's anti-fraud policy and in accordance with Operational Circular No. 10, entitled *"Principles and procedures governing investigation of fraud"*, published in January 2013, a number of fraudulent activities involving several members of the personnel, suppliers and contractors' staff were investigated by the Internal Audit Service between April and August 2013.

In August 2013, the facts established by the Internal Audit Service were reported to the Director-General, who decided to pursue disciplinary action, for which the Joint Advisory Disciplinary Board (JADB) was consulted.

The JADB heard all impugned members of the personnel, thoroughly examined each individual case, analysed the findings and made recommendations to the Director-General in March 2014. It found, in particular, conflicts of interest and fraudulent activities in violation of CERN's Procurement Rules. Sanctions were recommended by the JADB in all cases, ranging from a reprimand for the milder offences to dismissal in the most serious cases. The Director-General decided to follow these recommendations and issued the corresponding disciplinary actions on 14 April 2014.

An analysis of possible improvements to be made to the internal control system, which enabled these fraudulent manoeuvres to occur without being detected, was also undertaken by the Internal Audit Service, leading to corresponding recommendations that are being implemented by the Organization.

The Organization would like to remind all CERN contributors that its anti-fraud policy specifies **zero tolerance to fraud**. It would also like to point out that all CERN contributors have a key role to play in the prevention and detection of fraud and, as such, have a duty to report suspicions of fraud in good faith either to their hierarchy, to the Head of the Human Resources Department or to the Internal Audit Service, as they deem appropriate.

HR Department

POSTERS: BALANCING OVERKILL AND FREEDOM OF EXPRESSION

The number of posters put up at CERN to inform, engage and invite is growing quickly, and they are taking over an ever-increasing number of walls, doors, pillars and glass panels. In the interests of freedom of information, no official restrictions are in place, but we are nonetheless obliged to maintain a fair balance. Here we discuss this issue.

Posters clamour for our attention, becoming more and more invasive and often eternal as they are never taken down... While the need to inform and to be informed is a legitimate one, we also have to respect our workplace. It's no surprise that walls or pillars (sometimes freshly painted) at junctions in corridors that are busy at peak times are seen as ideal targets by people who want to publicise their events or activities, but this abundance, or overabundance, of posters is sometimes seen as vandalism of communal areas.

What's more, the posters themselves are sometimes vandalised: comments, sometimes offensive, may be added and they may be partly or completely defaced. Such misdemeanours violate the Organization's Code of Conduct and its goal of fostering a sense of mutual understanding and respect in the workplace. This kind of behaviour is particularly unacceptable when it targets a particular group. If a poster provokes a strong response, it is better to contact its creators than to act in a way that could jeopardise the current relative freedom with respect to bill posting.

A number of spaces are clearly identified as being dedicated for posting, each with its own rules. For example, in the main building, only the Press Office is allowed to put posters on the boards by the entrance to Restaurant 1, while the Users' Office is responsible for managing the information displayed on the windows all along the walls at the bottom of the stairs. Some buildings also have official noticeboards, which are clearly marked and are the responsibility of the relevant secretariats. Aside from those places, posting on other structures is just tolerated, as is the diversity of their content and graphic styles.

In order to preserve this freedom of information, which forms part of our Organization's culture, it is essential to strike a balance between respect for the workplace and tolerance of other people's right of expression. In this context, various electronic tools offer good alternatives to printed posters – the Staff Association website, for example, where details of club activities can be found, and Indico, which provides information about scientific events. The Bulletin also includes an "Announcements" section and an "Events" section in order to meet to the growing demand for information to be visible and shared.

CERN Internal Communication and HR Department

CERN COMPUTING EQUIPMENT FOR SENEGAL

On 26 May, CERN once again had the honour of donating computing equipment to a foreign institute.

This time, around 100 servers and five network hubs were sent to Senegal, making it the seventh country, after Morocco, Ghana, Bulgaria, Serbia, Egypt and the Philippines, to receive a donation of computing equipment from the Organization.

The official ceremony was held at CERN on 26 May in the presence of the Director-General, Rolf Heuer, and Senegal's ambassador to Geneva, Fodé Seck, who both expressed their enthusiasm for the project.

The equipment is intended for Cheikh Anta Diop University (UCAD) in Dakar and will be of particular use to students attending the African School of Fundamental Physics and its Applications (ASP 2014) taking place from 3 to 23 August, for which CERN is a partner. The ASP allows a large number of African students to hone their skills in high-energy physics and to forge professional links with fellow physicists in Africa and Europe.

For more information about the African School of Fundamental Physics and its Applications, see this article in Bulletin *issue no. 34-35/2010.*

Anaïs Schaeffer

BEHIND THE SCENES OF GS: THE IMPACT OF IMPACT

Carrying out a job at CERN can be a complicated task, with coordinators reaching across departments to manage personnel, ensure safety and minimise the impact of their activities on the rest of the Laboratory. To help coordinators with this tough task, the GS Department developed IMPACT, the platform that, since 2011, has unified CERN's major experiment, accelerator and injector coordination tools.

When planning interventions both large and small, IMPACT (the Intervention Management Planning and Coordination Tool) is the go-to gizmo on every CERN coordinator's tool belt. "IMPACT is a central repository of activity requests that standardises the way work is declared at CERN," says Benoit Daudin, GS-AIS-PM Section Leader. "If you need to intervene in any of CERN's major facilities, you need to declare this work on IMPACT. The tool will analyse the job and see whose approval is required. This could simply be an experiment's activity coordination team, but it could also be passed on to Safety or Radiation Protection (RP) teams, depending on the nature of the work."

As a GS-AIS tool, IMPACT takes advantage of CERN's existing databases (see image 1). It can send an activity request on to the right people in the coordination team, taking holidays into account (through EDH), provide teams with special access privileges, automatically record events in the LHC logbook, even integrate the right safety procedures to follow, such as a Joint Inspection Visit (VIC), Electrical Lockout or *Dossier D'Intervention en Milieu Radioactif* (DIMR).

In addition to these automated functions, IMPACT also provides coordinators with different ways to view the activities taking place. These can be sorted by site or by person in a user-friendly interface, so that any potential conflicts can be spotted. "IMPACT also provides similar tools to the Radiation Protection group," says Eloy Reguero Fuentes, IMPACT Technical Leader. "As it is tied into Dosiserv and thus the operational dosimeters, IMPACT can track the doses received by every worker during an intervention." These are displayed in clear radiation reports, updated daily (see image 2), enhancing dose traceability for CERN supervisors, the people responsible for interventions, CERN Safety officers and RP teams, among others.

After recording almost 17,000 activities during LS1, IMPACT continues to grow in scope: in 2014, Linac4 and GIF++ joined the system and, since last month, all CERN surface interventions have also been included.

Katarina Anthony

The members of the GS-AIS-PM Section, in charge of IMPACT.

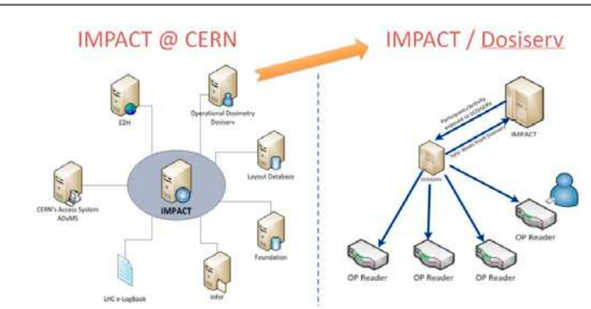


Image 1: at the heart of GS-AIS, IMPACT connects to many databases, including Dosiserv, EDH and ADaMS.

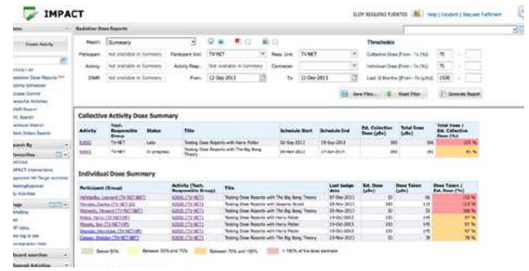


Image 2: a radiation dose report generated by IMPACT.

Computer Security

COMPUTER SECURITY: THE SECURITY MARATHON, PART 2

Do you recall our latest article on the "Security Marathon" and why it's wrong to believe that computer security is a sprint, that a quick hack is invulnerable, that quick bug-fixing is sufficient, that plugging security measures on top of existing structures is a good idea, that once you are secure, your life is cosy?

In fact, security is a marathon for us too. Again and again, we have felt comfortable with the security situation at CERN, with dedicated protections deployed on individual hosts, with the security measures deployed by individual service managers, with the attentiveness and vigilance of our users, and with the responsiveness of the Management. Again and again, however, we subsequently detect or receive reports that this is wrong, that protections are incomplete, that security measures are incomplete, that security awareness has dropped. Thus, unfortunately, we often have to go back to square one and address similar issues over and over again with the same people.

So, security is a marathon. Sometimes it is even like a marathon combined with hurdles on a balance beam: you have to dodge obstacles and are doomed if you get the balance wrong. Like every other marathon, security requires lots of external assistance and support. On the other hand, it also demands a high frustration threshold, some stubbornness and a lot of perseverance. And as an excuse to all those whom we have pushed too hard - the balance beam is sometimes very thin, so please have mercy! Let us continue together protecting CERN's computing facilities and keeping them secure. Please do not repeat the same mistakes made in the past; there will be plenty of opportunities to make new ones. If you run a computing service or develop software (who doesn't nowadays?), please:

- Do not reinvent the wheel. Make your life easier and use the central services provided by the IT Department;
- Get the adequate training for your favourite programming language;
- Program properly and deploy a thorough software development life-cycle;
- Use static code analysers to detect basic flaws in your software;
- Follow our Security Baselines in order to get your service properly set up.

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

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

Computer Security Team

Ombud's Corner

OMBUD'S CORNER: TRIED AND TRUSTED

Trust is an essential ingredient in all working relationships. When trust breaks down, conflicts may arise and teams may stop working in harmony. The Ombud is there to help you to find your way out before the point of no return is reached.

Reliability, integrity, expertise and good will: these are the four pillars on which trust is built. Trust between colleagues may break down for many different reasons, including misunderstandings, and the way to restoring the relationship is through working on these four pillars.

For instance, if we assume that we do indeed have the expertise to deal with a particular task assigned to us, we may need to improve our reliability by making sure that we meet deadlines and expectations or demonstrate our integrity by acknowledging and accepting accountability for this, all the while showing that we are doing our best to do whatever it takes to achieve the common goals and restore our colleagues' faith in us.

All four of these pillars need to be in place in order to support and maintain trust but the key ingredient to re-building a relationship where trust has broken down is the last of these elements – indeed, without good will on both sides it will be an impossible task.

Let us look at the following fictitious scenarios where there has been a breakdown of trust:

Mary (fictitious name) has lost trust in one of her colleagues and the whole team is suffering from the difficult situation. When we take a closer look into what happened, we see that the main reasons are missed deadlines and a refusal to provide data, which are perceived as a lack of commitment and team spirit. As a result, Mary doesn't want to collaborate or share information with her colleague anymore and their working relationship is rapidly degrading. Mary comes to the Ombud's office because she wants to find ways of resolving the situation.

Similarly, George (fictitious name) comes to the Ombud's office because he is confused and frustrated by corridor rumours and what he perceives to be inconsistent behaviour on the part of his supervisor, who seems to say different things to different colleagues and often denies what was said previously. He feels he no longer knows what to believe and does not trust anyone. He finds this situation demotivating and does not know what to do.

In coming to the Ombud's office, both Mary and George have indicated their interest in clarifying the situations in which they find themselves, thereby demonstrating their good will and the wish to re-build trusting relationships.

However, for this to work and evolve towards a renewal of trust requires good will also from the other side.

By taking this first step, Mary and George have started a process whereby, with the Ombud's help, they can explore different ways in which to initiate an open and honest conversation with their colleague/supervisor with a view to improving their working relationship and restoring the trust between them.

They may go away from the Ombud's office with a clearer idea of how to approach their interlocutors, prepared to make their own case, to listen to the other's point of view and to agree on a course of action that would be mutually beneficial to both of them. On the other hand, if they do not feel equal to the task, they may prefer to request an informal mediation by the Ombud whose role would then be to ensure that both parties have their say, that points that have been clarified and accepted are not continuously re-discussed, and that the discussion remains at a respectful and acceptable level of exchange.

Whatever the approach that is chosen, whether 'tête à tête' or through a facilitated conversation, an honest and open dialogue backed by the genuine wish to improve the situation is the way forward and constitutes a tried and tested way towards re-establishing the trust that is the cornerstone of all good working relationships.

"He who does not trust enough… will not be trusted."

Lao Tzu, philosopher & poet of ancient China

Training

SAFETY TRAINING: PLACES AVAILABLE IN JUNE

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

Title of the course EN	Title of the course FR	Date	Hours	Language
Chemical Safety				
ATEX Habilitation - Level 1	Habilitation ATEX - Niveau 1	24-Jun-14	09.00 - 17.30	French
ATEX Habilitation - Level 2	Habilitation ATEX - Niveau 2	05-Jun-14 to 06-Jun-14	09.00 - 17.30	French
Respiratory Protective Equipment	Equipement de Protection Respiratoire	27-Jun-14	08.30 - 12.00	French
Cryogenic Safety				
Cryogenic Safety - Fundamentals	Sécurité Cryogénie - Fondamentaux	12-Jun-14	10.00 - 12.00	English
Electrical Safety				
Habilitation Electrique - Electrician Low Voltage - Initial	Habilitation électrique - Électricien basse tension - Initial	30-Jun-14 to 02-Jul-14	09.00 - 17.30	French
Habilitation Electrique - Electrician Low Voltage - Refresher	Habilitation électrique - Électricien basse tension - Recyclage	18-Jun-14 to 19-Jun-14	09.00 - 17.30	English
		12-Jun-14 to 13-Jun-14	09.00 - 17.30	French
Habilitation Electrique - Electrician Low and High Voltage - Initial	Habilitation électrique - Électricien basse et haute tension - Initial	30-Jun-14 to 03-Jul-14	09.00 - 17.30	English
Habilitation Electrique - Electrician Low and High Voltage - Refresher	Habilitation électrique - Électricien basse et haute tension - Recyclage	23-Jun-14 to 24-Jun-14	09.00 - 17.30	French
Habilitation Electrique - Non-Electrician - Initial	Habilitation Electrique - Non-Electricien - Initial	05-Jun-14 to 06-Jun-14	09.00 - 17.30	French
Habilitation Electrique - Non-Electrician - Refresher	Habilitation Electrique - Non-Electricien - Recyclage	11-Jun-14	09.00 - 17.30	French
Fire				
Fire Extinguisher	Exctincteur d'incendie	04-Jun-14	10.30 -12.00	French
		04-Jun-14	14.00 - 15.30	French
		05-Jun-14	10.30 -12.00	French
Lifting and Heights				
Mobile Elevated Working Platform - Driving - Initial	Plate-forme élévatrice mobile de personnel - Conduite - Initial	24-Jun-14 to 25-Jun-14	08.30 - 17.30	French
Mobile Elevated Working Platform - Driving - Refresher	Plate-forme élévatrice mobile de personnel - Conduite - Recyclage	13-Jun-14	08.30 - 17.30	French
Overhead Crane - Operator and Slinger - Initial	Pontier-élingueur - Initial	16-Jun-14 to 17-Jun-14	08.30 - 17.30	French
Overhead Crane - Operator and Slinger - Refresher	Pontier-élingueur - Recyclage	18-Jun-14	08.30 - 17.30	French
Working at Heights - Using a harness	Travail en hauteur - Utilisation du harnais	24-Jun-14	09.00 - 17.30	French
		26-Jun-14	09.00 - 17.30	English
Non-Ionizing Radiation				
Laser - Expert	Laser - Expert	23-Jun-14 to 24-Jun-14	09.00 - 17.30	English
Magnetic Fields	Champs Magnétiques	26-Jun-14	09.30 - 12.00	French
		27-Jun-14	09.30 - 12.00	English
Oxygen Deficiency Hazard (ODH)				
Confined space	Espace confiné	10-Jun-14	09.00 - 17.30	French
Self-Rescue Mask - Initial	Masque auto-sauveteur - Initial	02-Jun-14	10.30 - 12.00	French
		02-Jun-14	14.00 - 15.30	English
		10-Jun-14	10.30 - 12.00	French
		10-Jun-14	14.00 - 15.30	English
		16-Jun-14	10.30 - 12.00	French
		16-Jun-14	14.00 - 15.30	English
		23-Jun-14	10.30 - 12.00	French
		23-Jun-14	14.00 - 15.30	English
		30-Jun-14	10.30 - 12.00	French
		30-Jun-14	14.00 - 15.30	English
Self-Rescue Mask - Refresher	Masque auto-sauveteur - Recyclage	03-Jun-14	10.30 - 12.00	English
		05-Jun-14	10.30 - 12.00	English
		12-Jun-14	10.30 - 12.00	French
		19-Jun-14	10.30 - 12.00	English
		24-Jun-14	10.30 - 12.00	French
Radiation Protection				
Radiation Protection - Controlled Area - CERN Employees and Associates	Radioprotection - Zone contrôlée - Employés et associés CERN	10-Jun-14	09.00 - 17.00	English
		20-Jun-14	09.00 - 17.00	English
		25-Jun-14	09.00 - 17.00	French
		30-Jun-14	09.00 - 17.00	English

DISCOVER THE NEW ENVELOPES COMMEMORATING CERN'S 60TH ANNIVERSARY

FIRST CERN SCIENCE CAMP FOR KIDS

2014 CERN ACCELERATOR SCHOOLS: PLASMA WAKE ACCELERATION

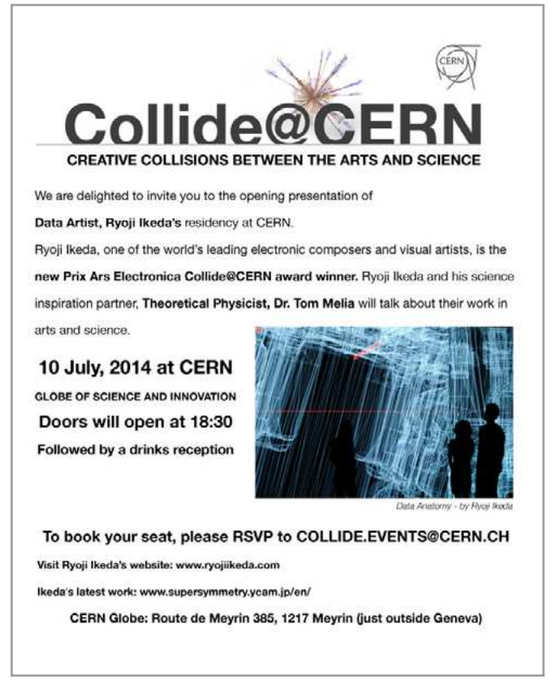
A specialised school on Plasma Wake Acceleration will be held at CERN, Switzerland from 23-29 November, 2014.

This course will be of interest to staff and students in accelerator laboratories, university departments and companies working in or having an interest in the field of new acceleration techniques. Following introductory lectures on plasma and laser physics, the course will cover the different components of a plasma wake accelerator and plasma beam systems. An overview of the experimental studies, diagnostic tools and state of the art wake acceleration facilities, both present and planned, will complement the theoretical part. Topical seminars and a visit of CERN will complete the programme.

Further information can be found at:
http://cas.web.cern.ch/cas/PlasmaWake2014/CERN-advert.html
http://indico.cern.ch/event/285444/

MICROCOSM EXHIBITION 11 JUNE - 19 DECEMBER | FREE ENTRANCE

COLLIDE@CERN: ON 10 JULY, DON'T MISS THE PUBLIC LECTURE BY RYOJI IKEDA, CERN'S NEW ARTIST IN RESIDENCE



CERN LIBRARY | TORD EKELÖF PRESENTS THE PROCEEDINGS OF THE NOBEL SYMPOSIUM ON THE HIGGS BOSON DISCOVERY AND OTHER RECENT LHC RESULTS | 12 JUNE

Thursday, 12 June 2014 at 16:00 in the Library (52-1-052).

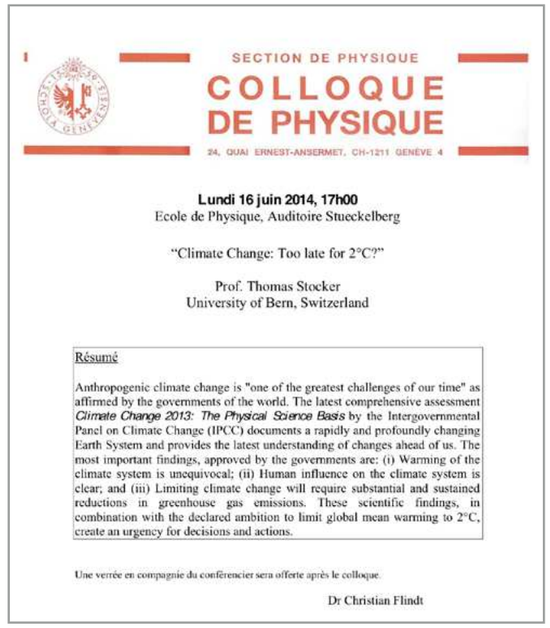
The "Nobel Symposium on LHC results" took place at Krusenberg mansion, Uppsala, Sweden on 13-17 May 2013.

The aim of the Symposium was to give an overview of the latest experimental and theoretical results pertaining to the LHC programme but also to give an occasion to ponder over the implications of these results in the broader context of the past, present and future evolution of the field of Particle Physics.

"Nobel Symposium 154: The Higgs Boson Discovery and Other Recent LHC Results", ed. by Tord Ekelöf, Physica Scripta T154, IOP, 2013, ISBN 9789789789781.

* Coffee will be served from 15:30 *

UNIVERSITÉ DE GENÈVE PHYSICS COLLOQUIUM | 16 JUNE



17 JUNE: TALK IN THE MEMORY OF LORENZO FOÀ (REGISTRATION BEFORE 10 JUNE)

FCC-EE PHYSICS WORKSHOP 19-21 JUNE 2014

The 7th FCC-ee/TLEP workshop, the first after the FCC kick-off in February 2014, will be focused on physics and experiments.

It will take place on 19-21 June at CERN in the TH auditorium.

The registration is open and the agenda is available on the indico web page: **http://indico.cern.ch/event/313708/.**

You are all cordially invited to attend!

This will be the first in a series of workshops that will lead us to the first FCC-ee physics milestone, a document defining the physics landscape and study plans, required for March 2015.

FCC-ee is a high-luminosity Z, W, Higgs and top factory, to be hosted in a 100km tunnel, possibly as the first step towards a 100 TeV pp collider FCC-hh. These two machines are being studied within the FCC design study.

High precision, high statistics and a clean environment are the tools available in FCC-ee to shed light on the unknown physics that underlies present mysteries: dark matter, the baryon asymmetry of the Universe, possibly even the neutrino masses, etc. Different eyes may lead to different views...

The organizers:
Alain Blondel
John Ellis
Christophe Grojean
Patrick Janot

Seminars

MONDAY JUNE 02, 2014

- 08:30 Induction Sessions **INDUCTION PROGRAMME - 1st Part** 80-1-001 GLOBE
-

SUNDAY JUNE 15, 2014

- 09:00 thematic CSC **2nd Thematic CERN School of Computing**

MONDAY JUNE 16, 2014

- 11:00 TH Cosmo Coffee **EPFL/CERN/ UNIGE** Discussion Sessions

TUESDAY JUNE 17, 2014

- 10:00 Computing Seminar **OpenDolphin: presentation models for compelling user interfaces** TH Conference Room
- 11:00 Computing Seminar **Griffon: what's new and what's coming** TH Conference Room
- 11:00 EP Seminar Flavour physics: status and prospects Main Auditorium
- 14:00 TH String Theory Seminar TBA TH Conference room

WEDNESDAY JUNE 18, 2014

- 12:00 ESHEP - European School of High-Energy Physics 2014 EUROPEAN SCHOOL OF HIGH-ENERGY PHYSICS
- 14:00 TH Theoretical Seminar TBC TH Conference Room
- 16:00 Academic Training Lecture For Postgraduate Students LHCPhenoNet School: NNLO ante portas

THURSDAY JUNE 19, 2014

- 14:00 TH BSM Forum TBA TH common room

FRIDAY JUNE 20, 2014

- 11:00 Detector Seminar ATLAS Muon upgrade Salle Anderson

TUESDAY JUNE 24, 2014

- 14:00 TH String Theory Seminar TBA