

CMS PIXEL TRACKER TRANSPLANT: EVERYTHING WENT WELL SO FAR



Delicate surgery: The new Pixel Tracker being installed at the heart of the CMS detector. (Photo: Max Brice/CERN)

At the beginning of March, the CMS collaboration successfully replaced part of the heart of its detector: its silicon pixel tracking system. This system, a 4-layer cylindrical device with 124 million pixels, is the innermost part of the CMS detector and starts the trajectory measurement of charged particles emerging from proton-proton collisions at the centre of the experiment.

The original Pixel Tracker was designed for a lower collision rate than the LHC will deliver in the coming years. Therefore, between 28 February and 7 March, it has been replaced with a brand-new device, as one of the activities of the Extended Year-End Technical Stop (EYETS). In fact, the Pixel Tracker's upgrade is the schedule driver for the overall CERN EYETS planning and its successful installation is another important milestone in a busy but productive period for the collaboration.

The older Pixel Tracker had three layers in the central barrel region (called BPIX), capped by two disks at each end (named FPIX). Its replacement, which has an additional layer throughout, is primarily designed to help CMS deal with the increasing rate of collisions. These additional layers of tracking will also help CMS better establish where the individual collisions occurred and better trace the trajectories of produced particles. This enhanced performance will improve the precision with which predictions of the Standard Model can be measured, including the theorised properties of the Higgs boson.

Preparations for the installation of the second-generation Pixel Tracker began as early as Long Shutdown 1 (LS1). The innermost layer of the new BPIX is intended to sit even closer to the collision point than before.

(Continued on page 2)

A WORD FROM CHARLOTTE LINDBERG WARAKAULLE

MEMBER STATES AND CERN - AT THE HEART OF THE ORGANIZATION

There has been much focus in recent years on the geographical enlargement of CERN. Since the process began in 2010, our membership has grown to 22 countries. We have welcomed a number of Associate Members, and we now have International Collaboration Agreements with close to 50 different countries. This is testament to a dynamic and growing particle physics field, which is very welcome news for the continuing good health of CERN.

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A WORD FROM CHARLOTTE LINDBERG WARAKAULLE

MEMBER STATES AND CERN - AT THE HEART OF THE ORGANIZATION

But it is our Member States I want to focus on here. Over the years, they have built and sustained the laboratory with us. A key objective of the International Relations Sector is therefore to ensure that we always have an effective and open dialogue with the Member States that have always supported the mission and ideals of basic research. The Member State Relations Section takes the lead in coordinating these efforts to allow us to nurture that essential relationship to the fullest extent possible.

There have always been senior members of personnel with a role in managing CERN's relationship with their home countries, just as we have always monitored each Member State's return on investment in terms of such things as employment, industrial return and knowledge transfer. However, we now have formalised the role of Management Liaisons for each Member State for the first time, giving them a mandate to enhance the dialogue and be more proactive. Over the past year, they have evolved into an effective network of colleagues who understand their countries and who understand

CERN. They play an invaluable role in facilitating ongoing communication, preparing high-level visits and, increasingly, fostering community building among their compatriots at CERN. If you'd like to know who your country's liaison officer is, you'll find them all here (<http://international-relations.web.cern.ch/International-Relations/ms/>). As you'll see, they represent a diverse cross-section of CERN people and a considerable pool of knowledge, which further strengthens them collectively as a network.

We are constantly developing our ability to manage return on investment, bringing together existing tools that monitor numbers of staff, fellows and associates with others that keep an eye on procurement, knowledge transfer, participation in visits and teacher programmes as well as coverage in media and social media. These tools will allow us to see at a glance how each Member State is doing, and where action might be required. We can then target our efforts more precisely, for example by promoting opportunities available at CERN to those who may be unaware of them,

or by analysing the perceived obstacles preventing companies from tendering for CERN contracts when they are well equipped to do so.

Another recent initiative is the establishment of thematic forums to share and consolidate best practice in a number of areas. In some cases, we have built on existing networks, such as the Knowledge Transfer Forum. Others, like the Teacher and Student Forum, are new.

CERN's founding Member States showed great vision when they established the Organization in the 1950s. Since then, the growing family of CERN Member States has continued to support us through thick and thin. Their confidence has been rewarded in the form of knowledge, training, technology and international collaboration for the benefit of all. It's a strong relationship, and one that we are striving to develop further.

*Charlotte Lindberg Warakaulle
Director for International Relations*

CMS PIXEL TRACKER TRANSPLANT: EVERYTHING WENT WELL SO FAR

To accommodate this configuration, the central section of the LHC beam pipe was replaced during LS1 with a narrower version. Earlier this year, the original Pixel Tracker was removed from within CMS and stored in a radiation-protection environment on the surface at Point 5.

On Tuesday, 28 February, one half of the new BPIX was installed around the beam pipe. The BPIX was built by a consortium of nine laboratories in Europe, and fi-

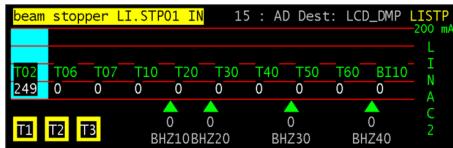
nally assembled at PSI in Switzerland. The BPIX had been transported to CERN a few weeks previously and stored in a clean room on the surface at Point 5 prior to installation. On the Tuesday morning, the first of the two halves was lowered through the 100-metre-deep shaft onto the floor of the CMS underground experimental cavern before being raised onto the operational platform and inserted into position; it was followed by the second half on Thursday, 2 March. Once each half was in place, the respective electronics and cooling systems

had to be connected in preparation for data taking. The remaining components – the FPIX consisting of three disks on each side of the collision point, built in the US – were installed at the beginning of March.

The upgraded Pixel Tracker will operate until the early stages of the High-Luminosity LHC, when a third-generation device will replace it.

Achintya Rao

EYETS REPORT: 2017, A BUSY YEAR AHEAD FOR THE ACCELERATORS



A snapshot of the Linac2 fixed display with the source pulsing at a rate of 1.2 seconds and a beam current of around 250 mA. In the coming week, the other bars in the graph should light up too, as the beam will be accelerated to the end of Linac2 soon.

The 2017 extended year-end technical stop (EYETS) is about to come to an end. Presently, the LHC magnets are being cooled down again, and then the powering tests will take place.

On 14 April, the LHC will be handed back to the operations teams, and in early May the first bunches with protons will be injected again. A beam intensity ramp-up will follow, which should bring the LHC to the level of performance experienced at the end of last year's proton run by mid-June. The 2017 LHC proton physics run will then end in mid-December.

No ions are planned for the LHC in 2017. However, for the first time this year, xenon

ions will be accelerated by Linac3 through LEIR, the PS and the SPS for use in the North Area experimental areas during an eight-week ion run in November and December. To accomplish this, the Linac3 ion source has been converted to a xenon ion source, commissioning of which started during the first week of March.

This year's extended technical stop has been an opportunity to perform "open-heart surgery" on the CMS detector to replace the pixel tracker as well as an enormous amount of other work throughout the entire accelerator complex.

In the LHC, regular maintenance and repairs were performed in parallel to the replacement of a superconducting dipole magnet in sector 1-2, which went according to planning.

Much work was accomplished on the injector side too: a massive de-cabling campaign in the PS Booster and the Super Proton Synchrotron (SPS) has paved the way for the installation of new equipment for the LHC Injector Upgrade (LIU) project. The project will gradually be deployed in

the coming years and it will culminate during long shutdown 2 (LS2).

A new internal beam dump was installed in the SPS during the second week of March. This was in response to a problem that occurred in April last year, during the preparation of the LHC beam in the SPS, when a vacuum leak developed in the SPS internal beam dump, limiting the number of LHC bunches per extraction out of the SPS to 96 for the entire 2016 run. Since then, a heroic effort has been made to re-design and produce a new internal beam dump, which was finally installed on Tuesday, 8 March and which will allow the SPS to reach its full performance again for the 2017 run.

The Linac2 proton source has been functioning again since the end of February. On Friday, 10 March, the Linac2 was closed for hardware commissioning to be followed by commissioning with beam. These are the first steps to get the whole LHC proton injection chain up and running again for another busy (and hopefully successful) year.

Rende Steerenberg for the Operations group

PAVING THE WAY FOR A NEW ANTIMATTER EXPERIMENT



Installation of the GBAR linac in its shielding bunker. The electrons accelerated to 10 MeV toward a target will produce the positrons that are necessary to form anti hydrogen with the antiprotons coming from the ELENA decelerator. (Image: Max Brice/CERN)

GBAR starts with a straight line: on 1 March the experiment installed its first component – a linear accelerator.

GBAR (Gravitational Behaviour of Antihydrogen at Rest) is an antimatter experiment that will measure the freefall of antihydrogen atoms in the Earth's gravitational field. How antimatter reacts to

gravity is one of the fundamental questions of physics yet to be answered. While theories exist as to whether it will behave like matter or not, so far only a proof of principle experiment has been performed by the ALPHA collaboration.

Located in the Antiproton Decelerator (AD) hall, GBAR is the first of five experiments that will be connected to the new ELENA (Extra Low ENergy Antiproton) deceleration ring. It will use antiprotons supplied by ELENA and positrons created by the newly installed linac to produce antihydrogen ions (antihydrogen atoms with one additional positron).

In sharp contrast to the LHC's chain of big accelerators and fast particles, the world of antimatter is small and its particles are as slow as they come. The GBAR linac is only 1.2 metres long. It produces electrons and accelerates them to 10 MeV, towards a

tungsten target. In the collision, positrons for the antihydrogen ions are created and are later trapped by a magnetic field.

Before they are turned into antihydrogen ions, the antiprotons go through several stages of energy reduction. Starting with a 5.3 MeV antiproton beam in the AD, ELENA reduces the energy by a factor of 50 to just 100 KeV. In April 2016, GBAR will be equipped with its own decelerator, which will bring down the energy of the antiprotons to just 1 KeV.

"With the positrons from the linac, we will create a cloud of electron-positron pairs, called positroniums. When the antiprotons from ELENA pass through the positronium target, they will catch positrons and turn into antihydrogen ions," explains Patrice Pérez, GBAR's spokesperson. Indeed, positrons and electrons can very briefly

bind together into an exotic atom before annihilating.

While antihydrogen ions are much harder to produce than antihydrogen atoms, their positive charge makes them significantly easier to manipulate. With the help of lasers, their velocity will be reduced to half a metre per second. This will allow them to be navigated to a fixed point. Then, trapped by an electric field, one of their positrons will be removed with lasers, which will make them neutral again. The only force acting on them at this point

will be gravity and they will be free to make a 20-centimetre fall, during which researchers will observe their behaviour.

The technology at GBAR has never been used before, which makes it a pioneering experiment. According to the schedule, by September 2018 the installation of all parts will be completed and recording of the first data can begin.

The results might turn out to be very exciting. As Pérez explains: "Einstein's Equivalence Principle states that the tra-

jectory of a particle is independent of its composition and internal structure when it is only submitted to gravitational forces. If we find out that gravity has a different effect on antimatter, this would mean that he was wrong and that we know very little about the universe."

Five other experiments are installed at the Antiproton Decelerator, two of which – AEGIS and ALPHA – are also studying the effect of gravity on antimatter.

Iva Raynova

NEW MANAGEMENT AT THE ATLAS EXPERIMENT



New ATLAS Spokesperson Karl Jakobs (Image: E. Ward /ATLAS Experiment © 2017 CERN)

Karl Jakobs from the University of Freiburg is a familiar face at CERN and in the ATLAS Experiment. He's been part of the collaboration since the signing of the ATLAS Letter of Intent in 1992, having taken on various coordination roles, and followed the experiment through all its phases. Now, after twenty-five years with the collaboration, Karl is moving into the main office as spokesperson.

New priorities

Karl and his new management team will have to hit the ground running. "The next two years will be quite demanding," explains Karl. "We are facing many challenges in parallel: operating the detector

under increasing LHC luminosity, and efficiently collecting and analysing the data – all the while we continue ramping-up work on our extensive upgrade projects."

In preparation for Run 3 of the LHC, ATLAS teams are working on "Phase I" upgrades to be installed in two years' time. In parallel, teams are developing much larger "Phase II" upgrades, in preparation for the High-Luminosity LHC. This is a massive endeavour that will require the complete redesign and construction of certain ATLAS sub-detectors. "Although these developments may seem a long way off, extensive planning is needed early on in order to have the Phase II detectors ready for installation in 2024," says Karl. "Given the importance of the upgrade projects, Kevin Einsweiler (Berkeley LBNL), the ATLAS Upgrade Coordinator, joins our management team. In addition, Ludovico Pontecorvo (CERN) and Fido Dittus (CERN) will continue in their roles as Technical and Resources Coordinators."

Maintaining excellence

Along with this extensive upgrade work, the new ATLAS Management is committed to maintaining the standards the world has come to expect. "The Collaboration has strived to perform high quality physics

analyses; this is something we want to keep up, even with our growing number of priorities," says Andreas Hoecker (CERN), new ATLAS deputy spokesperson. "As we continue to take and analyse the 13 TeV data during Run 2, our physics priorities will be shifting towards measurements and searches that need higher integrated luminosities."

"Together with the Technical Coordinator, we look to ensure on-going excellent operation and performance of the experiment," says Isabelle Wingerter-Seez (Annecy LAPP), new ATLAS deputy spokesperson. "This includes preparing the full chain—from taking the data, to their processing and analysis—to take full benefit of the increasing luminosity."

A Fresh Start

High-energy physics experiments are relay races with far-reaching timelines. Now is the moment for the baton to be passed along. "We are fortunate to be building on the excellent structures already in place," says Karl. "Dave Charlton and his team have done a fantastic job over the past four years, and have been extremely supportive during the transition."

Katarina Anthony

CHAMONIX EVENT PREPARES FOR LHC'S FUTURE

2016 was a remarkably successful year for CERN's Large Hadron Collider (LHC), marked by excellent peak performance, good availability and operational flexibility (*CERN Courier*, December 2016, p.5). Targeting further improvement, a thorough review of LHC operation and system performance was the focus of discussions in the first phase of the annual LHC performance workshop, which took place from 23 to 26 January in Chamonix, France.

Experts from the accelerator sector, CERN management and members of the CERN Machine Advisory Committee explored the operational scenarios for the remainder of Run 2 and made preliminary decisions regarding optics and machine parameters. Beam is due back in the LHC this year at the beginning of May, and the rest of the year will essentially be dedicated to proton–proton physics, with the usual mix of machine development and special physics runs. By quantifying the limitations to peak luminosity from electron-cloud effects, the cryogenics system and other factors, luminosity estimates for the coming years were also drawn up: in 2017, the peak luminosity should be at least $1.7 \times 10^{34} \text{ cm}^{-2} \text{ s}^{-1}$ and

the integrated luminosity target for ATLAS and CMS is 45 fb^{-1} .

One open question about future LHC operations concerns the increase of the beam energy from 6.5 to 7 TeV per beam, which would see the machine reach its design specification. To gain input on high-yield magnet behaviour, a dipole training campaign was conducted at the start of the year-end technical stop (*CERN Courier* March 2017 p9). Experience from this and previous training campaigns was reviewed and the duration, timing and associated risks of pushing up to 7 TeV – including implications for other accelerator systems, such as the LHC beam dump – were explored. There will be no change of beam energy in 2017 and 2018. The goal is to prepare the LHC to run at 14 TeV during Run 3 with the experiments expressing a clear preference to make the change in energy in a single step.

Regarding the longer-term future of the LHC, the High-Luminosity LHC (HL-LHC) demands challenging proton and ion beam parameters from the injector complex. The LHC injector upgrade (LIU) project is

charged with planning and executing wide-ranging upgrades to the complex to meet these requirements. Both the LIU and HL-LHC projects have come through a recent cost-and-schedule review, and at present are fully funded and on schedule. The injector upgrades will be deployed during Long Shutdown 2 (LS2) in 2019-2020, while the HL-LHC will see the major part of its upgrades implemented in LS3, which is due to start in 2024.

With only two more years of operation before the next long shutdown, planning for LS2 is already well advanced. For the LHC itself, LS2 will not require the same level of intervention as seen in LS1. Nonetheless, there is still a major amount of work planned across the complex including major upgrades to the injectors in the framework of LIU, and significant upgrades to the LHC experiments.

The exploitation of the LHC and the injector complex has been impressive recently, but work across the Organization continues unabated in the push to get the best out of the LHC in both the medium and long term.

THE PORT POWERS THE SCIENCE HACKATHON AT IDEASQUARE



Collaborating and co-creating at the Science Hackathon in IdeaSquare (Image: THE Port Association)

The challenge: write a white paper, research paper or grant application in less than 60 hours. The Science Hackathon 2017 was open to every scientist struggling with a particular problem or anyone who wanted to offer their skills to help others with their research problem. What was the outcome? Automated construction of network maps for refugee simulations, forecasting for the reception of Internally

Displaced Persons (IDPs), machine learning to predict suicidal behaviour, and ways to keep cars cool are just some of the topics that came out of this year's Science Hackathon.

Special guest Derek Groen, the organiser of the first ever science hackathon, travelled from London to participate in the event and to speak about his experience. Groen's presentation shed light on the common challenges faced by hackathon participants.

Below are some of the highlights of the event.

Davide Aloci, Diana Suleimenova and Joao Campos proposed an automated tool that would construct network maps of all points, paths and refugee camps available for simulations of refugee movements. The tool would provide information to gov-

ernments and organisations such as the UNHCR about where refugees go and how to allocate humanitarian resources.

Derek Groen, Eric Bosne and Gerardo Guillermo drafted a paper on forecasting for IDP reception after a disaster. According to the group's agent-based model, each family would make decisions based on a set of rules, such as the location of conflicts, the distance between cities and the location of friends or relatives. Training and verification during the weekend with actual data from UNHCR showed good agreement for some parameters in the initial phase of the simulation and also allowed the group to specify which additional data from UNHCR could help to improve the simulation's predictions.

There are existing studies on the use of machine learning to predict suicidal behaviour from data generated through social media. Achintya Rao, Daniel Dobos and

Lorena Lobato instead proposed a series of “wellness check-ins” that people around the world would anonymously complete in order to produce a model based on differential equations. The tool would rate depression from the point of view of the users, rather than relying on expert input.

During the summer months, when temperatures reach over 30 °C, cars may overheat, causing burns, dehydration and other harmful effects. Khurram Shahzad, Oday

Darwich and Sameed Muhammed drafted a grant proposal for a device that would address this issue. The device would automatically cover the car with a heat-resistant material at the flip of a switch. An app would also allow the user to monitor the temperature of their car remotely.

All the groups plan to take their projects further by publishing journal articles or applying for grants.

What's next?

The call for challenges is now open for the 2017 THE Port Humanitarian Hackathon. The big event will take place from 6 to 8 October. Go to www.theport.ch and submit a challenge before 31 March.

Want to stay connected? Follow us on Facebook and on Twitter @theportatcern

Danielle Sessa for THE Port Association

COMPUTER SECURITY: MUSIC, VIDEOS AND THE RISK FOR CERN

Do you like listening to music while you work? What about watching videos during your leisure time at CERN? Sure this is fun. Having your colleagues participate in this is even more fun. However, this fun is usually not free. There are artists and the music and movie companies who earn their living from music and videos.

Thus, if you want to listen to music or watch movies at CERN, make sure that you own the proper rights to do so (and that you have the agreement of your supervisor to do this during working hours). Note that these rights are personal: you usually do not have the right to share music or videos with third parties without violating copyrights. Therefore, making copyrighted mu-

sic and videos public, or sharing music and videos as well as other copyrighted material, is forbidden at CERN and outside CERN. It violates the CERN Computing Rules and it contradicts CERN's Code of Conduct, which expects each of us to behave ethically and honestly, and to credit others for their contribution. Copyright violation is also illegal in different ways in different European and other countries, including in two CERN host states.

Violating copyright is not a trivial offense. Sharing music or videos via the CERN network or from CERN computers will reflect back on the Organization and shed a bad light on all of us. Therefore, help keep CERN's reputation and integrity protected.

Respect copyright! Users violating these rules may face serious consequences, including the involvement of their supervisor and, if applicable, the payment of any (financial) compensation as CERN will waive any costs of the infraction.

Do you want to learn more about computer security incidents and issues at CERN? Follow our Monthly Report (https://cern.ch/security/reports/en/monthly_reports.shtml). For further information, questions or help, visit our website (<https://cern.ch/Computer.Security>) or contact us at Computer.Security@cern.ch.

Stefan Lueders and The Computer Security Team

DEVOXX4KIDS, A CONFERENCE FOR BUDDING GEEKS



The Kids learn how to program the Thymio robot, developed at EPFL, with the help of a Devoxx4Kids volunteer (Image: Mauro Teixeira/CERN)

On Sunday 26 February, CERN hosted the latest edition of Devoxx4kids, a series of computing, robotics and electronics workshops for kids. The event was organised

in the context of the VoxxedDays CERN developers conference, held at CERN the previous day.

Various workshops—“Minis” for the 4-6 year-olds, “Kids” for the 7-10 year-olds and “Teens” for the 11-15 year-olds—gave the children an insight into programming and electronics through robots and games. About 70 children came along and were able to show off to their parents how they had managed to programme a NAO robot to have a conversation with them or a Thymio robot to follow a path on a map, or how they had altered the famous Minecraft game or developed an interactive quiz on a computer using Scratch.

Devoxx4kids was established in Antwerp, Belgium, on the fringes of the well-established Devoxx conference for Java programmers. Since its establishment, Devoxx4kids has brought smiles to thousands of children's faces in 22 countries. Run by a team of volunteers headed by Xavier Bourguignon, the Swiss version of the conference is now into its eighth year. “Bringing Devoxx4kids to CERN and having it in the Globe is a dream come true!” says Xavier. Organising workshops in one of the high temples of science, where the Web was born, sends out a strong signal to the children (and their parents). I hope Devoxx4kids will often come back to CERN in the future.”

Joao Silva, organiser of Voxxed Days CERN and CERN coordinator of Devoxx4kids adds: "The aim of the workshops is to stimulate curiosity and the imagination, and to show what can be done with science and technology. These

workshops lead the children to discover that, through games, they can be the creators of tomorrow. Education is one of CERN's core missions, so hosting an event like Devoxx4kids here is entirely consistent

with our work. And we look forward to hosting it again!"

François Briard

Official communications

HUMAN RESOURCES DEPARTMENT: 2016 REPORT ON THE SETTLEMENT OF DISPUTES AND DISCIPLINE

Introduction

The Annual Report under Chapter VI ("Settlement of Disputes and Discipline") of the Staff Rules and Regulations serves to report:

- cases of submission of requests for review;
- internal appeals;
- complaints before the Administrative Tribunal of the International Labour Organization (ILOAT); and
- cases in which disciplinary action was taken.

Requests for review and internal appeals

Under Article S VI 1.01 of the Staff Rules, members of the personnel may challenge an administrative decision by the Director-General where it adversely affects the conditions of employment or association that derive from their contract or from the Staff Rules and Regulations.

If permitted by the Staff Rules and Regulations, a decision may be challenged internally within the Organization:

- through a review procedure; or
- through an internal appeal procedure. In this case, the Joint Advisory Appeals Board (JAAB) shall be consulted by the Director-General prior to taking any final decision on the merits.

Complaints before the ILOAT

A decision may be challenged externally by filing a complaint before the ILOAT:

- when internal procedures have been exhausted and the decision is final or,
- when an internal challenge is not permitted by the Staff Rules and Regulations.

Disciplinary Action

Under Article S VI 2.01 of the Staff Rules, the Director-General may take disciplinary action against members of the personnel who, whether intentionally or through carelessness, are guilty of a breach of the Staff Rules and Regulations or of misconduct that is to the detriment of the Organization.

Article S VI 2.02 of the Staff Rules stipulates that, having regard to the gravity of the breach or misconduct in question, the disciplinary action may be:

- a warning;
- a reprimand;
- suspension without remuneration or pay for a period not exceeding six months,
- loss of one or more steps (up to August 2016) / downward adjustment of the staff member's salary (effective 1 Sept 2016);
- demotion (effective 1 Sept 2016); or
- dismissal.

The Director-General shall consult the Joint Advisory Disciplinary Board (JADB) prior to taking any disciplinary action other than a warning or a reprimand (Article S VI

2.04 of the Staff Rules) or dismissal under S VI 2.05.

In cases of particularly serious misconduct, the Director-General may decide to dismiss without notice and without consulting the JADB (Article S VI 2.05 of the Staff Rules).

Requests for review

From 1 January 2016 to 31 December 2016, there were two requests for review of administrative decisions taken by the Director-General.

- One staff member requested a review of the decision to be placed on compulsory special leave, including a CERN-wide site ban, in the framework of an official investigation.

An internal review was carried out by the Human Resources Department and the Director-General decided to maintain the administrative decision, but to limit the applicability of the site ban to defined areas.

- One staff member contested their pension entitlements under their staff member contract issued 15 years ago, claiming that their immediate prior employment by a CERN contractor should be taken into account in determining their pension entitlements.

An internal review carried out by the Human Resources Department found the request irreceivable.

Internal appeals

From 1 January 2016 to 31 December 2016, 14 internal appeals were submitted to the Director-General.

- One staff member challenged the decision not to recognize the occupational origin of their health condition.

The Director-General decided to follow the Joint Advisory Appeals Board's recommendation to confirm the Organization's original decision.

- One associated member of the personnel challenged the notification of termination of a contract of association with CERN.

This appeal was found irreceivable.

- Eleven staff members introduced internal appeals against the decision taken by Council to modify the career structure and salary grid as a result of the five-yearly review of financial and social conditions; and their corresponding individual notifications regarding their position under the new structure.

These appeals have been temporarily suspended, by mutual agreement, pending the outcome of the 2017 MERIT exercise and the confirmation of staff members' benchmark job title.

- One former staff member lodged an appeal against the decision taken by the Manager of the CERN Health Insurance Scheme not to grant an ex-gratia benefit. This appeal is currently pending a report by the medical practitioner.

Complaints before the ILOAT

From 1 January 2016 to 31 December 2016, CERN was not informed of any complaints by members of personnel filed before the ILOAT.

The ILOAT ruled in the Organization's favour in a case filed by a former staff member, whose contract was terminated at the end of his probation period.

A series of cases filed against CERN, ESO and the CERN Pension Fund by an ESO staff member who sought recognition by the Fund of her registered partner were withdrawn, the matter having been resolved by the 2015 five-yearly review.

Warnings, reprimands and site bans:

In 2016, the Organization issued five warnings, 12 reprimands and one site ban:

- Five warnings for breach of conduct concerned non-compliance with site access rules, such as using excessive speed or demonstrating discourteous behavior toward the security guards.
- Nine reprimands for breach of conduct and for breach of the obligation to exercise reserve and tact, causing prejudice to the reputation of the Organization.
- One reprimand for breach of conduct concerned the improper use of CERN facilities for personal purposes and, in so doing, exposing colleagues to inappropriate personal information.
- One reprimand for breach of conduct concerned the negligent failure to disclose information about their spouse's income, as required under the CHIS rules.

- One reprimand for breach of conduct concerned inappropriate behavior towards a colleague.
- One permanent site ban was issued following an incident of theft of personal property on the CERN site.

The Joint Advisory Disciplinary Board (JADB):

From 1 January 2016 to 31 December 2016, the JADB was convened to study three situations:

- One resulted in a decision by the Director-General to follow the recommendation of the JADB to issue a reprimand for breach of conduct for the introduction of a prohibited item onto the CERN site.
- Two ongoing matters concern alleged fraudulent declarations under the CERN Health Insurance Scheme. The outcomes of these two matters are expected during the first quarter of 2017.

Dismissal notified during the probation period:

In 2016, two staff members were duly notified of the termination of their employment contracts due to insufficient performance during the probation period (as per Article S II 5.01 g of the Staff Rules).

Dismissal without notice:

In 2016, there were no dismissals from the Organization without notice (as per Article S VI 2.05 of the Staff Rules).

Human Resources Department

Announcements

THE FERMI LAT COLLABORATION MEETS AT CERN

The Fermi LAT (Large Area Telescope) collaboration will be holding its 2017 Spring Meeting at CERN from 27 to 30 March.

The programme includes a full day of public scientific, outreach and art projects on 29 March in CERN's Main Auditorium, designed to promote scientific and cultural collaboration with CERN users interested in learning more about the LAT, one of the instruments aboard the Fermi Gamma-ray Space Telescope (often known simply as Fermi).

Over the course of the day, scientists will present results from Fermi and

from CERN's experimental and theoretical groups active in dark matter searches and the study of cosmic rays.

At 7 p.m., the collaboration will present the *Blazing Quasi-Stellar Object*, a multimedia work by Italian artist Luca Pozzi and curated by the Francesco Urbano Ragazzi duo. The work is structured as a lecture-performance featuring visual animations. Pozzi has a profound fascination for the scientific ideas underlying modern multimesenger astrophysics and feeds his inspiration through a continuous dialogue with scientists. Pozzi will deliver his lecture on Tiziano's painting *Bacco e Arianna* and will guide the audience in an analysis of this

late Renaissance masterpiece focusing on the complex stratifications connecting this painting to the frontiers of multimesenger astrophysics.

All attendees of the meeting will receive a 3D animated screen saver, *The Big Jump Theory*, designed by the artist and expressing an imaginary theory inspired by quantum gravity, gravitational waves and the gamma-ray sky as seen by Fermi.

For more information, please see:
<http://fermi.gsfc.nasa.gov>
www.lucapozzi.com
www.e-ven.net

USERS' OFFICE: OFFICE MOVE AND CLOSURE

Due to office renovation work, the Users' Office will move to **Building 510** as from **16 March** for 2 months.

The Users' Office will be **closed** for removal on:

- Tuesday 14.03 – afternoon
- Wednesday 15.03 – all day

Thank you for your understanding.

The Users' Office

CERN ACCELERATOR SCHOOL-ADVANCED ACCELERATOR PHYSICS

Registration is now open for the CERN Accelerator School's course on Advanced Accelerator Physics, to be held in Egham, London (UK) from 3 to 15 September, 2017.

This 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. Participant will select one afternoon course from the three available.

Further information can be found on the Indico page of the event (<http://indico.cern.ch/event/509762/>) and on the CAS website (<http://cas.web.cern.ch/cas/EghamUK2017/Egham-advert.html>).

CLOSURE OF GATE C | 15 - 29 MARCH

Please note that Gate C will be completely closed to traffic (including cyclists and pedestrians) from 15 to 29 March, due to the following work:

- complete resurfacing of the road,
- installation of new vehicle presence detectors on the ground to improve safety.

We will do our best to reduce the time needed for the work and apologise in advance for any inconvenience.

SMB Department and BE-ICS Group

10TH ANNIVERSARY OF CINEGLOBE-MYTHS AND REALITIES

In 2017, CineGlobe will celebrate its 10th anniversary. On this remarkable occasion, the festival addresses a theme which is crucial in this day and age – the blurring of the line between fact and fiction. Political, Social, and Scientific, this edition – titled Myths and Realities – will examine the many ways in which myths and realities interfere in our understanding of the world, even raising the question: What is reality?

The festival will be held at the Globe of Science and Innovation at CERN, with screenings and short films from Tuesday to Friday at noon and 18h and special events every night.

Entry is free, but attendance for evenings and workshops is by registration.

On weekends there will be morning screenings for children and families, and in the afternoon for all.

For program details, practical information, reservations visit the site:
<http://www.cineglobe.ch>

THE SERVICE DESK CONTRACTOR IS CHANGING: WHAT WILL HAPPEN?

The new **Service Desk** contract will begin on 1 April 2017 and will incorporate the Central Telephone Switchboard.

The Switchboard phone number (+41 (0)22 76 76111) and the Service Desk phone number (+41 (0)22 76 77777) will remain the same but both services will be handled by the new Service Desk team.

This change of contract will have no impact on existing services; the functions of the CERN Service Portal, the ticketing system (ServiceNow) and the Switchboard will remain unchanged.

The Service Portal, the integrated CERN knowledge base used by the CERN user community, and the Service Desk will remain the basis for the smooth delivery of services.

We advise you to create your incident or request ticket directly from the Service Portal ("Submit a request" or "Report an incident") and to pre-select a technical area in order to optimise the resolution time.

The SMB department's Service Management and Support group is actively working with the new contractor to ensure that the transition is as smooth as possible in order to minimise the impact for end users.

Nevertheless, the change may result in a reduction in service quality or delays in response times for a short period so we apologise in advance for any inconvenience you may experience and thank you for your understanding.

Last but not least, we would like to express our sincere thanks to the outgoing Service Desk team for their excellent work, which was unanimously and highly appreciated by the CERN community.

SMB-SMS Service Management and Support group

2017 CERN-JINR EUROPEAN SCHOOL OF HIGH-ENERGY PHYSICS

We would like to draw your attention to the 2017 CERN-JINR European School of High-Energy Physics. Details can be found here (<http://physicschool.web.cern.ch/physicschool/ESHEP/ESHEP2017/default.html>).

The School will be held in Evora, Portugal, from 6 to 19 September 2017. Please note that the **deadline for applications is 21 April 2017**.

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

Note that, as indicated on the webpages, one or two students from developing countries could be considered for financial support.

*Nick Ellis and Martijn Mulders
(On behalf of the Organising Committee)*

MARCH-JUNE: RENOVATION WORKS ON THE ISR ROAD BRIDGE

The SMB Department informs you that refurbishment and renovation works on the ISR road bridge will start next week.

Traffic will be disrupted, with alternate circulation per period, between the 6th of

March and the 22nd of June in the Route Planck and Route Cockcroft.

For any further information, please contact the work supervision unit in SMB/SE at 73273 ou 161485.

Thank you in advance for your understanding.

SMB Department

REGISTER NOW FOR FAMELAB 2017!



*The FameLab 2015 CERN winner Lillian Smelting.
(Image: CERN)*

Interested in science communication and how to present your research work? Participate in the Swiss heats of FameLab 2017, the international competition for sci-

ence communication (free of charge), and improve your communication skills while meeting other young scientists from different fields.

Give a 3-minute, scientifically accurate and engaging talk and get selected for the Swiss final! All ten finalists win a communication training weekend at CERN.

The talk can be in English, French or German.

Lausanne heat:

When: 29 March at 6.30 p.m.
Where: Espace Dickens, Lausanne

Zurich heat:

When: 30 March at 6.30 p.m.
Where: bQm bar, Zurich

The final will be held in Basel.

Registration is open **until 22 March**.

For registration and more information about FameLab Switzerland, go to: www.famelab.ch.

FameLab