CERN Bulletin

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A BRIGHT WEEKEND: THE PORT DEVELOPS A BETTER SOLUTION FOR THE "CHILDREN OF THE NIGHT"

THE Port Hackathon took place at CERN and Geneva's Campus Biotech from 2 to 4 October. Among the various prototypes presented at the final event was a novel solution for the special mask that children suffering from xeroderma pigmentosum have to wear to reduce their risk of getting skin cancer. The whole initiative was triggered by an article published in one of the summer issues of the *Bulletin*.

Developing and testing the mask prototype at THE Port Hackathon, 2015. (Images: Andrey Loginov, Pierre Freyermuth, Antonio Bellotta/ THE Port)

"The improvements are really substantial and have made the president of the French *Children of the Night* Association really happy!" says Andy Butterworth from the team that worked on developing a prototype for a new mask during THE Port Hackathon. In his "normal" professional life, Andy is a radio-frequency expert working in the Beams department. During the hackathon, he worked with colleagues from CERN, the University of Lausanne and the University of Geneva, and even with a chemical engineer from Australia who happened to read about the project and made a short stopover in Geneva to participate.

The challenge for the team was to build a more comfortable mask for children who can only leave their homes at night when the light is not dangerous for their ultra-sensitive skin. Special equipment, including a mask, has been developed to protect them from UV exposure, but it is uncomfortable and very expensive. Thanks to THE Port Hackathon,

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THE CERN MODEL AS A POSSIBLE TEMPLATE FOR GLOBAL COOPERATION

CERN's relationship with the United Nations continues to thrive. We were represented in the UN General Assembly in New York, where the 2030 Agenda for Sustainable Development, structured around 17 Sustainable Development Goals, was formally adopted. This replaces and builds on the millennium development goals, and continues the UN's long tradition of keeping development in the spotlight through ambitious target setting.

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A word from the DG

(Continued from page 1)

THE CERN MODEL AS A POSSIBLE TEMPLATE FOR GLOBAL COOPERATION

The sustainable development goals cover a range of themes from poverty reduction to sustainable cities. They are the result of an extensive and inclusive process of consultation among UN members and a wide range of stakeholders. CERN played its part in this process, through its participation in events both here in Geneva and in New York. We repeatedly underlined the importance of science, technology, engineering and mathematics (STEM) for many of the goals. I'm pleased to say that our message was heard: STEM features strongly in the 2030 Agenda, which can be found on the UN's website (http://cern.ch/go/pTM9). Moreover, CERN is asked to also continue providing its input in the implementation phase of the Agenda.

The latest development in the relationship between CERN and the UN sees the UN taking a close look at the CERN model as a possible template for global cooperation. Just as last year, CERN and the UN organised an event in New York to mark CERN's 60 years of science for peace, this year there will be a symposium to celebrate the 70th anniversary of the UN. To be held at the UN office in Geneva on 2 November, the symposium is supported by the French and Swiss missions. It will discuss the role played by CERN and the UN in providing global public goods.

The CERN model has proven itself extremely effective in our fields of action. Today, we are leading the drive towards open access publishing in science. And the reason we have a single World Wide Web, and not a plethora of proprietary webs, is that CERN made the core web software available to the world royalty-free. These are just two of the immediate societal benefits to come from CERN. They come naturally within the CERN model, accompanying our core mission of fundamental research of whose success I hardly need remind you, just three years after the observation of the Brout-Englert-Higgs mechanism.

As it celebrates its 70th anniversary, the UN also has much to be proud of in scientific domains. The sustainable development goals build on UN work in many areas of science: climate change, energy supply, access to food and water. Indeed, everything covered by the goals is a global challenge, and so is particle physics. Global challenges require global solutions, and for this reason I believe that working together, CERN and the UN have much to offer.

Please also read the article featuring the CERN-UNOG joint symposium on page 4.

Rolf Heuer

A BRIGHT WEEKEND: THE PORT DEVELOPS A BETTER SOLUTION FOR THE "CHILDREN OF THE NIGHT"

(Continued from page 1)

Astronaut Luca Parmitano tests a mask used by children suffering from xeroderma pigmentosum.

a new, more comfortable mask will soon be available to them. "We worked in collaboration with parents and children who helped us identify the most urgent improvements for the mask," explains Andy. "The new prototype has a much more effective ventilation system, which is more comfortably positioned at the top of the mask and which ensures automatic temperature and humidity control; the prototype also has better acoustics for hearing and speaking."

Even though the inspiring hackathon is over, the team will continue to work on improving the mask. "The feedback we received from the parents and children was extremely positive but we still need to work on reducing the weight of the mask," says Andy. "We will now go back to all the members of the team and start working on a better mechanical design and lighter materials. We also need to work on the safety of the whole system so that the children do not get injured if they fall while wearing the mask."

The same group of volunteers also worked on producing a more sensitive and less expensive photon detector that children could wear to be able to see whether or not it is safe for them to take the mask off. If you are interested in joining the teams, do not hesitate to get in touch with THE Port.

Antonella Del Rosso

THE Port Hackathon: projects and prospects

THE Port Hackathon started in 2014, and in its second year brought together 134 participants (about twice as many as last year) from 42 different countries to work on 13 projects. The experience of last year confirms that most of the projects continue after the hackathon. Some of them have already made the headlines. Among the projects tackled this year (only 13 projects could be selected out of the 54 proposed, mostly by NGOs and international organisations), there was also one aimed at improving food bags so that they can be safely dropped from airplanes and another one aimed at making it simpler for people to find their way around complex building systems, such as hospitals. You can find a complete list of projects on: **http://cern.ch/go/8mjr**.

Watch the video:

LHC REPORT: SPECIAL RUN WITH DE-SQUEEZED BEAMS FOR ATLAS/ALFA AND TOTEM

The main high-luminosity proton-proton run of the LHC is complemented by one week per year of special proton-proton runs. The special runs are performed with larger beam sizes at the interaction points to allow the forward physics experiments, TOTEM and ATLAS/ALFA, the chance to make precise measurements of protons as they emerge from collisions at small angles.

In standard high-luminosity operation, the beams are squeezed to give small beam sizes at the interaction points to maximise the collision rates. The "squeeze" takes place at top energy and the beam size at the centre of ATLAS (IP1) and CMS (IP5) is reduced from 66 micrometres at the top of the ramp to 18 micrometres before colliding beams are established.

Protons that avoid the fate of an inelastic collision but yet still interact – in elastic or diffractive events – are scattered and emerge in the forward direction. The reduction in beam size has a side effect of increasing the angle at which protons approach the collision point. This increased angular divergence means that the scattered protons also emerge at larger angles, making life difficult for TOTEM and ATLAS/ALFA.

In the special runs this week, the beams are de-squeezed at IP1 and IP5 to produce bigger beams at the interaction point with the incoming protons approaching the interaction point at smaller angles. Once the de-squeeze is finished and the beams are colliding, the Roman Pot detectors of ATLAS/ALFA in IP1 and of TOTEM in IP5 are moved close to the beam and data-taking starts.

A primary goal for both ATLAS/ALFA and TOTEM is to measure for the first time elastic proton-proton scattering at 13 TeV. This is achieved at low luminosity with a small number of bunches.

In a second phase, the TOTEM and CMS collaborations will coordinate the use of their detectors to perform combined measurements for diffractive physics studies. Of particular interest is the search for new resonance states, glueballs, characterised by the combination of forward scattered protons recorded in the Roman pots and signals at large angles in the central detectors. This phase requires significant amounts of data and operation this week has been with around 700 bunches per beam spaced at 100 ns.

Helmut Burkhardt for the LHC team

CERN'S MODEL FOR INTERNATIONAL SCIENTIFIC COLLABORATION TO BE DISCUSSED AT UNOG

On 2 November, on the occasion of the 70th anniversary of the United Nations, CERN and UNOG will co-host a one-day symposium, with the support of Switzerland and France. The event will bring together policy-makers, scientists and members of civil society to debate how to construct synergies across communities as a means to drive global objectives. CERN people are invited to the *Palais des Nations* to take part.

CERN's seat at the General Assembly of the United Nations in New York.

How does CERN work? How are goals achieved in such a complex environment where diverse communities work together in the interests of science? CERN's model for international scientific collaboration is being looked at with growing interest by an increasingly large community of experts in various fields. Scientific advances and accomplishments are testament to the effectiveness of the model and prove that ambitious scientific programmes can be carried out only by communities collaborating in the long-term. "The backbone of the CERN model is its Convention, which gives very clear directions but also allows for flexibility," says Director-General Rolf Heuer. "The success of CERN relies on the contributions from a huge community of scientists and engineers spread worldwide. They collaborate and share common values and ideals, for the sake of global knowledge and regardless of the country they come from." At the symposium, speakers will discuss if and how this model can be used effectively in other contexts for the good of society.

Indeed, just as in the particle physics community, many of the challenges that society faces today, including understanding climate change, dealing with shrinking biodiversity, and ensuring access to safe water, health, internet and education for all the inhabitants of the planet, involve several stakeholders and must be addressed by experts coming from a number of different disciplines. The event organised by CERN and UNOG will give representatives from various UN agencies, international governmental and non-governmental organisations, as well as diplomats, policymakers, economists, sociologists and members of the physics community the opportunity to discuss how to identify the right approach to address these issues in a coordinated way.

"How to reconcile open collaborative efforts and market approaches; bottom-up initiatives and top-down strategy and regulation; local and global policies; how to choose the appropriate model for a given situation; and what we can learn from our experiences at CERN and elsewhere will be the topics at the core of the discussions," says Michel Spiro, former President of the CERN Council and one of the organisers of the joint symposium. "The hope is to stimulate a creative exchange that can help us develop an innovative approach to the provision of global public goods. This exchange is all the more significant as 2015 marked the adoption of the United Nations' 2030 Agenda for Sustainable Development: an international programme that will shape the future of international cooperation and of which CERN is part."

CERN people are invited to attend the event. The number of seats is limited. To secure your seat, register at: **http://cern.ch/go/jN8h**.

Also see the Word from the DG published in this issue.

Antonella Del Rosso

CERN and the UN

The United Nations and CERN are continuing to strengthen their cooperation in science, technology, innovation and education, as well as in peace and sustainable development. In 2011, a Cooperation Agreement was established between CERN and the United Nations Office at Geneva (UNOG). This was followed in 2012 by the granting of Observer status to CERN by the United Nations General Assembly. In October 2014, CERN and the UN held a major event in New York entitled "CERN: 60 years of science for peace and development."

See CERN at the UNOG Open Day!

The UNOG Open Day will be held on 24 October at the *Palais des Nations* and the surrounding Ariana Park. The UN will be celebrating its anniversary the same day, exactly 70 years since the Charter of the United Nations entered into force!

CERN will be taking part in the Open Day celebrations, installing the interactive LHC tunnel in the exhibition area of the *Palais*. CERN guides will be on hand to speak to visitors about the Laboratory.

Join in the fun! There will be a wide range of activities to enjoy, including concerts, film screenings, free guided tours, lectures and much more. Go to: **http://cern.ch/go/NBp7** to find out more.

THE JOBS BEHIND THE SCIENCE

The HR Recruitment Unit has launched a series of short videos designed to attract the very best talents that CERN needs to pursue its cutting-edge research. CERN is very well-known for hiring physicists, but engineers, technicians and professionals working in diverse sectors in our 21 Member States are less aware that they too can have a once-in-a-lifetime opportunity to work in this unique place.

"The Jobs behind the Science" is the first of a series of videos presented by the Recruitment Unit of the HR Department's Talent Acquisition Group, aiming to promote CERN's image as an employer of choice for all science, technology, engineering and mathematics (STEM) professions.

"Difficulties in recruiting in the STEM market are a Europe-wide problem, and CERN is particularly affected by a common, well-established misconception: that this is a place only for elite physicists and engineers," explains Anna Cook, the Section Leader of the Recruitment Unit, who wrote the videos' scripts. "We are constantly facing recruitment challenges, especially in the fields of electricity, radiofrequency, cooling and ventilation, civil and mechanical engineering, and materials science, so we need to position ourselves prominently on the Europe-wide job market in these fields."

Five more videos have been produced, featuring scientists, engineers and technical operators going about their professional lives and sharing their happiness and pride in working at CERN. "That's what the videos are all about!" Cook affirms. "It's the pride that people have for being part of CERN."

The video, directed by Jacques Fichet of the Communications group, includes original music composed and played by Jules Ordan, the freelance film-maker who was instrumental in creating all the films. "Imagine working in a place like nowhere else on earth", starts the video's voice-over, and the expectations thus created are fulfilled in a crescendo of music and images, until the conclusion: "Could this be the place for your next professional challenge? Take part!"

This initiative is not specifically linked to a current recruitment campaign: it's part of the Recruitment Unit's constant drive to remind specialists in every relevant sector that CERN is an employer of choice for several other professions besides physics and engineering. "For example," Cook explains, "an operator in cryogenics, a radiation protection technician, a lawyer or a software developer wouldn't necessarily think of CERN as a potential place they could work. We want them to keep in mind that CERN can also be on their career aspirations radar."

In the context of the promotion of CERN's employer brand, the Recruitment Unit also hosts HR outreach activities. In this context, they have set up the Recruitment Outreach Service using the Service Desk as a tool to provide support and general branded material that CERN people visiting schools, universities or attending events or job fairs can use to foster CERN's image as an employer for a large audience of professionals. So if you're thinking of visiting your school or university, get in touch so that you can be equipped to be a CERN Ambassador!

Watch the video:

See all the Recruitment Service videos on the CERNJOBSTV YouTube Channel.

Stefania Pandolfi

FIRST SHIPMENT OF MAGNETS FROM CERN TO SESAME

On Monday, 19 October, CERN bade a fond farewell to two containers of magnets. Their destination: SESAME, the synchrotron light source under construction in Jordan.

The SESAME magnets, ready for transport.

The containers hold 31 sextupoles, produced in Cyprus and France, and 32 quadrupoles, produced in Spain and Turkey. The magnets will rejoin 8 dipoles (from the UK) that are already at SESAME. The quadrupoles and sextupoles were checked and measured at CERN before this shipment, while the dipoles went via the ALBA synchrotron, near Barcelona, where magnetic measurements were carried out.

With this shipment, around 50% of the magnets for the SESAME storage ring will have been delivered. The containers are expected to arrive just in time for the upcoming SESAME Council meeting at the end of November. The rest of the magnets – as well as all the power supplies and related control modules – have been produced and will be delivered to SESAME at the beginning of 2016, in time for the first beams in the machine in summer 2016.

CERN Bulletin

PASSPORT TO THE BIG BANG MOVES ACROSS THE ROAD

The ATLAS platform of the *Passport to the Big Bang* circuit has been relocated in front of the CERN Reception.

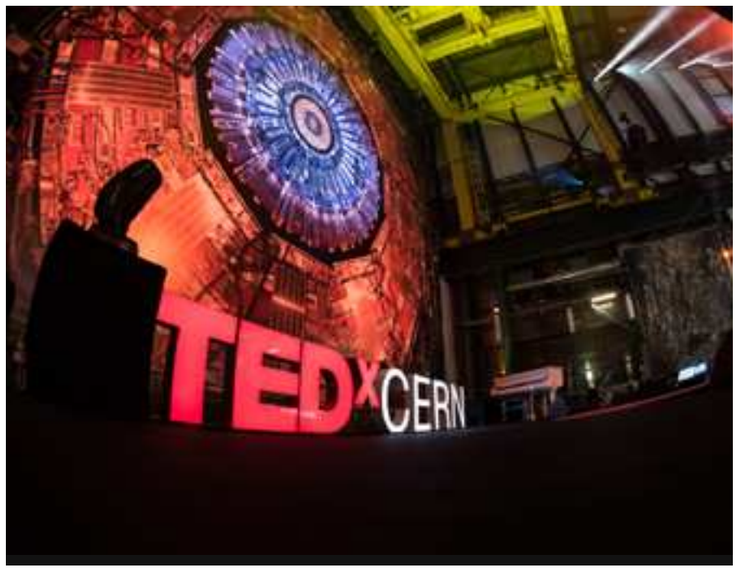
The ATLAS platform of the Passport to the Big Bang, *outside the CERN Reception building.*

The *Passport to the Big Bang* platform of the ATLAS Experiment has been moved in front of the CERN Reception to make it more visible and accessible. It had to be dismantled and moved from its previous location in the garden of the Globe of Science and Innovation due to the major refurbishment work in progress on the Globe, and is now fully operational in its new location on the other side of the road, in the Main Reception car-park. The *Passport to the Big Bang* circuit, inaugurated in 2013, comprises ten platforms installed in front of ten CERN sites and aims to help local residents and visitors to the region understand CERN's research. Dedicated *Passport to the Big Bang* flyers, containing all necessary information and riddles for you to solve, are available at the CERN Reception Building and in tourist offices across the Pays de Gex.

Corinne Pralavorio

TEDXCERN BREAKS THE RULES

On Friday, 9 October, TEDxCERN brought together 14 'rule-breakers' to explore ideas that push beyond the boundaries of academia. They addressed a full house of 600 audience members, as well as thousands watching the event online.



TEDxCERN broke all the rules this year - starting with its choice of venue. The CMS construction hall at Point 5 was converted into a gala-centre, complete with soundstage and dance floor. It was a stunning transformation that also brought to life the hall's to-scale photo of the CMS detector. The image served as the back-drop to a light-projection show entitled "Turbulence" by artist François Moncarey (see the video on: **http://cern.ch/go/688R**).

From star-singer Imogen Heap to CERN's own Edda Gschwendtner, the line-up of speakers was as diverse as it was educational. They discussed using tangible interfaces that allow human interaction via e-devices and the potential of 3D technology as a means of revolutionising education and product fabrication, and even explored transformations of matter into habitable structures. You can find the full programme of speakers on the TEDxCERN website (**http://tedxcern.web.cern.ch/**).

You can watch the TED-Ed animation screened at the event: "Where does gold come from?" by CERN's David Lunney on: **http://cern.ch/go/8gqT**.

Katarina Anthony

CAS COURSE ON ADVANCED ACCELERATOR PHYSICS IN WARSAW

The CERN Accelerator School (CAS) and the National Centre for Nuclear Research (NCBJ) recently organised a course on Advanced Accelerator Physics. The course was held in Warsaw, Poland from 27 September to 9 October 2015.

The course followed an established format with lectures in the mornings and practical courses in the afternoons. The lecture programme consisted of 34 lectures, supplemented by private study, tutorials and seminars. The practical courses provided 'hands-on' experience of three topics: 'Beam Instrumentation and Diagnostics', 'RF Measurement Techniques' and 'Optics Design and Corrections'. Participants selected one of the three courses and followed their chosen topic throughout the duration of the school.

Sixty-six students representing 18 nationalities attended this course, with most participants coming from European counties, but also from South Korea, Taiwan and Russia. Feedback from the participants was positive, reflecting the high standard of the lectures and teaching.

NCBJ provided excellent facilities and invaluable support for the highly technical courses, which are a key feature of the advanced school. They also organised an optional visit to their reactor, which is used for research and industrial purposes, and provided live beam facilities using electron linacs for 'hands-on' experience.

Forthcoming CAS courses will be a specialised school on Free Electron Lasers and Energy Recovery Linacs (FELs and ERLs) (in Hamburg, Germany, from 31 May to 10 June 2016), an Introduction to Accelerator Physics (Istanbul, Turkey, September 2016) and a specialised school on Beam Injection, Extraction and Transfer at CERN in November 2016).

Further information can be found on the CAS website: ***http://cas.web.cern.ch/cas/***.

CERN Accelerator School

Computer Security

IS YOUR CODE SANE?

How many of us write code? Software? Programs? Scripts? How many of us are properly trained in this and how well do we do it? Do we write functional, clean and correct code, without flaws, bugs and vulnerabilities*? In other words: are our codes sane?

Figuring out weaknesses is not that easy. Therefore, in order to improve the sanity of your code, prevent common pit-falls, and avoid the bugs and vulnerabilities that can crash your code, or – worse – that can be misused and exploited by attackers, the CERN Computer Security team has reviewed its recommendations for checking the security compliance of your code.

"Static Code Analysers" are stand-alone programs that can be run on top of your software stack, regardless of whether it uses Java, C/C++, Perl, PHP, Python, etc. These analysers identify weaknesses and inconsistencies including: employing undeclared variables; expressions resulting in buffer overflows; the usage of deprecated functions (like the insecure "strcpy" in C); and the lack of input checking, filtering and sanitisation. Of course, these tools cannot beat a "four-eyes" line-by-line code review but should still be standard for software architects, developers and programmers to improve their products. So, if you are serious and professional about your job, just run them prior to compilation or – even better – within your software integration framework (e.g. Atlassian's "Bamboo" or "Jenkins").

Of course, we will continue to help you. Once the CERN "Jenkins" service is in production, we will also provide a procedure to run our tools from there. In parallel, we are also aiming to scan *automagically* all public code in Gitlab repositories for certain obvious weaknesses. Any potential hits will be automatically flagged to the owner of the corresponding repository. You can also engage one of our CERN WhiteHats and allow him/her to carry out penetration tests of your applications. And finally, just contact us if you need a fully-fledged security audit of your code stack and a review of your software architecture!

**Yes! Admittedly, there is no such thing as "bug-free code". Even <--?php print "Hello World!"; ?--> might be flawed. Still, we should aim to minimise bugs and eradicate them wherever we can!*

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

Ombud's Corner

TOXIC TALES

Gossip comes with a high dose of toxicity that spreads and propagates. It differs from harmless everyday conversations in that it often tends to be inflammatory or embarrassing to people, and feeds off a negative emotional charge, which is hurtful, damaging and insidious… So, ask yourselves about that last juicy story you just heard: is it something you would repeat in front of the person concerned?

Gossip is a silent killer. In the workplace, it can be very destructive and often leads to strained relationships and a complete breakdown of trust between co-workers. As the word spreads rapidly, diffused and slightly modified at each step through the familiar game of what here might be called 'Cernese whispers', gossip can induce negative biases about people that tend to be invisible but long-lasting, and wreak far reaching consequences on people's careers whilst the source remains buried or unidentified.

Have you ever been in a situation where someone who leaves the room suddenly becomes the subject of conversation? And what about the times when critical comments are made to you about absent colleagues? How do you react when you hear negative judgements being made about others who are not present to defend themselves? Do you challenge these tales or simply accept them as factual elements in a normal exchange of information?

Indeed, how does one distinguish between a healthy conversation about shared experiences, news of colleagues or happenings that are of interest to all… and the type of tale-bearing that leads to damaged reputations and poisoned relationships? What are the warning signals that serve to put one on guard against entering into gossip cycles? There is no single answer to that question, but a possible clue lies in asking oneself in what sentiment or spirit the story is being shared. Is it being told with good will and a positive intention, or does it seem to be driven by negativity and a wish to put the subject down? Other clues lie in isolation behaviour, where people are deliberately left out of the information flow; a lack of specifics or first-hand information on further probing, an inability to produce examples by which the story can be verified; or the formation of cliques where colleagues start to take sides and refuse to work with one another.

If you recognise such signals in your professional environment, you can be instrumental in putting an end to the storytelling. Walk away from the gossip or turn the negative story around by saying something positive about the person instead. Share information sparingly and focus on building healthy working relationships that valorise trust. If you need to confront a problematic situation, do it directly with the people concerned in a spirit of mutual respect, rather than complaining about them behind their backs.

Putting a stop to gossip becomes even more essential if you are in a supervisory role, where it is your responsibility to ensure that your teams understand that gossiping and rumour-mongering will not be tolerated. Communicate regularly and consistently with your staff to minimise the need for speculation and lead the way towards a climate of transparency and trust. And when you spot the smoke that signals gossip… don't be tempted to fan the fire yourself!

Trivial and unsubstantiated information flows through every type of workplace and all organisations have their versions of 'Cernese whispers', but when you realise that these whispers may turn nasty or potentially damaging you need to nip them in the bud before they trap you into joining the game.

And when you say you never gossip… beware… for even if you only listen, you become a co-narrator, and the more you listen the more you actually support and promote the toxic tales. Gossip cycles are self-perpetuating, but… if there is nobody there to listen… they die a natural death!

All previous Ombud's Corners can be accessed in the Ombud's blog.

Sudeshna Datta-Cockerill

Official news

ELECTIONS TO THE SENIOR STAFF ADVISORY COMMITTEE ("THE NINE") 2015

The electronic voting process for the Senior Staff Advisory Committee ("The Nine") was closed on Friday 28 August 2015 at 17:30.

Of the 526 Senior Staff members eligible to vote, 275 voted. This represents a participation of 52%, to be compared to 59% in 2014, 63% in 2013, 61% in 2012, 43% in 2011, 44% in 2010, 57% in 2009, 53% in 2008, 63% in 2007, 64% in 2006 and 66% in 2005. The results are:

Electoral group 2
(Applied Physicists, Engineers, Computer Scientists)

Candidate	Dept	Votes	Result
Sergio CALATRONI	TE	50	
Marco CATTANEO	PH	76	ELECTED
Maria DIMOU	IT	44	
Fabio FORMENTI	TE	51	
John JOWETT	BE	68	
Maarten LITMAATH	IT	26	
John SHADE	IT	28	
Raymond VENESS	BE	103	ELECTED
Payol VOITYLA	DGS	12	
Maurizio VRETENAR	DG	100	ELECTED

Electoral group 3
(Administration, Human Resources, Finance and Purchasing)

Candidate	Dept	Votes	Result
François BRIARD	DG	99	ELECTED
Andrzej CHARKIEWICZ	PH	71	

The elected persons are **Marco CATTANEO**, **Raymond VENESS** and **Maurizio VRETENAR** for Electoral Group 2 and **François BRIARD** for Electoral Group 3. Their mandate is from September 2015 to August 2018.

The Committee will now consist of these newly elected members together with Giovanni ANELLI (FP), Augusto CECCUCCI (PH), Malika MEDDAHI (TE), Urs WIEDEMANN (PH) and Jorg WENNINGER (BE).

The new spokesperson for the Nine is Malika MEDDAHI (TE).

My sincere congratulations to all the new elected members. I would also like to thank all other candidates for standing for election, as well as Alberto PACE, the Polling Officer.

Tim Smith, ex-spokesperson of the "Nine"

Take note

PLEASE EXERCISE EXTREME CAUTION AT THE SAINT-GENIS ROUNDABOUT

In the interests of enhanced safety, a new pathway for pedestrians and cyclists has been constructed around the outside of the Saint-Genis roundabout. However, the markings of the previous cycle path, which is now closed to traffic, are still visible and can cause confusion. We therefore call on everyone to exercise extreme caution and to use the new pathway.

New two-way markings have been laid out, inviting pedestrians and cyclists coming from the direction of Saint-Genis-Pouilly to go towards the Swiss border or CERN Entrance E using the left-hand side of the roundabout (i.e. the Prévessin side). So, from now on, cyclists must no longer go around the roundabout on the right-hand side and pedestrians will no longer have to cross the D884 dual carriageway.

Similarly, people staying at the Saint-Genis hostel are invited to follow these new markings to get to CERN or to return to the hostel, which means they will avoid having to cross the D35 highway at a spot where traffic is generally very fast.

EXTREME CAUTION must be exercised and the still-visible old road markings must not be followed.

CERN LIBRARY | ROY CALNE PRESENTS: "THE RATCHET OF SCIENCE - CURIOSITY KILLED THE CAT" | 26 OCTOBER

Sir Roy Calne will discuss his most recent book: "The Ratchet of Science - Curiosity killed the cat. Can human nature cope with the rapid and accelerated advances of science?"

Monday, 26 October - 4.30 p.m.
CERN Filtration plant, Room 222-R-001
There is a limited number of seats. Please register on: http://cern.ch/go/d7WB.

The book's premise is that huge scientific advances throughout history occur in spurts or "ratchets". It reflects on the good and the evil consequences of discoveries. Due to the worrying nature of human beings, each ratchet in our knowledge is too often accompanied by dangerous applications. Knowledge, once established by a reliable scientific method, cannot be unlearned. The cat is out of the bag and the curiosity may kill the cat – so to speak.

Professor Roy Calne illustrates this with the example of the young physicist known to all at CERN: Lise Meitner, who discovered and named nuclear fission. Appalled by the later harnessing of nuclear fission to produce a weapon for mass murder, she then refused to have anything to do with the atomic bomb project. The book deals with the idea that whereas the history of science moves forwards, the same cannot necessarily be said for the behaviour of mankind, thus echoing the words of Martin Luther King, "we live in an age of guided missiles and misguided men".

In his deliberations at the start of the book, Calne postulates a possible "solution" to this by creating an institution which is "devoted to the idea of trying to make people live and let live safely". He goes on to suggest that such an institution might be CERN.

Sir Roy Yorke Calne, FRS, is a surgeon and pioneer in organ transplantation. He was Harkness Fellow at Harvard Medical School from 1960-61 and Professor of Surgery at Cambridge University between 1965 and 1998. He was awarded the 2012 Lasker-DeBakey Clinical Medical Research Award, together with Dr Thomas Starzl, for the development of liver transplantation. In 2014 he was awarded the Pride of Britain Award for Lifetime Achievement.

CERN Library

CERN MOVES TO HTTP://HOME.CERN

A new top-level domain for CERN has been inaugurated, with the migration of the core website to http://home.cern.

The *.cern* top-level domain is intended for the exclusive use of CERN and its affiliates, and is open for applications from within the community. Clear governance mechanisms for registration and management of *.cern* domains have been put in place. Applications for domains may be submitted by current members of the CERN personnel, and must be sponsored by a CERN entity such as a department, experiment, project or CERN-recognised experiment. For more information please refer to the registration policy on: **http://cern.ch/go/WS6f**.

The acquisition of the *.cern* top-level domain was negotiated via ICANN's new gTLD programme by a board comprising members of the CERN Legal Service, Communications group and IT department. *.cern* is one of over 1,300 new top-level domains that will launch over the coming months and years.

The *.cern* domain name registration form can be found in the service portal and applications are already open.

Visitors to the CERN website will be redirected automatically after the launch and existing links and URLs will remain valid.

Seminars

TUESDAY OCTOBER 27, 2015

11:00 **LHC Seminar**: Latest LHCb measurements of Electroweak Boson Production in Run-1 **Filtration Plant**
17:00 **Miscellaneous**: York ATLAS meeting

WEDNESDAY OCTOBER 28, 2015

11:00 **Academic Training Lecture Regular Programme**: Future Computing Technology (1/3) **Filtration Plant**
14:30 **ISOLDE Seminar**: The international measurement system & the impact of nuclear physics

THURSDAY OCTOBER 29, 2015

11:00 **Academic Training Lecture Regular Programme**: Future Computing Technology (2/3) **Filtration Plant**
16:30 **CERN Colloquium**: Building soft and tiny machines **Council Chamber**

FRIDAY OCTOBER 30, 2015

11:00 **Academic Training Lecture Regular Programme**: Future Computing Technology (3/3) **Filtration Plant**

MONDAY NOVEMBER 02, 2015

08:00 **CERN Accelerator School**: Intensity Limitations in Particle Beams 2015 **Kjell Johnsen Auditorium**
08:30 **Monthly induction**: HR INDUCTION PROGRAMME - 1st Part **Council Chamber**

TUESDAY NOVEMBER 03, 2015

17:00 **Miscellaneous**: York ATLAS meeting

Supplemental

NEWS

FROM THE CERN WEB: DATA ANALYSIS, DI-JET ASYMMETRY AND MORE

This section highlights articles, blog posts and press releases published in the CERN web environment over the past weeks. This way, you won't miss a thing...

Revolutionary improvement of data acquisition and analysis

14 October – LHCb Collaboration

The procedure of data taking and analysis at hadron colliders is performed in two steps. In the first one, called by physicists "online", the data are recorded by the detector, read-out by fast electronics and computers, and finally a selected fraction of events is stored on disks and magnetic tapes. The stored events are then analysed later in the so called "offline analysis".

Continue to read on: **http://cern.ch/go/8zl7**

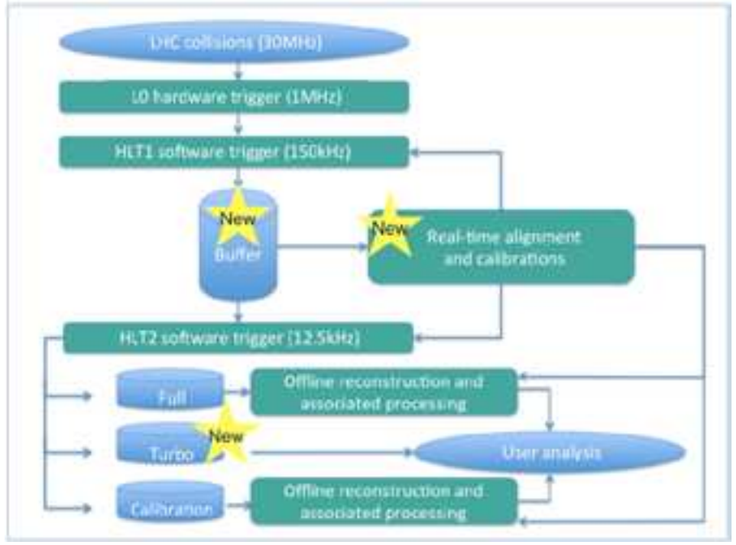


Image: LHCb Collaboration.

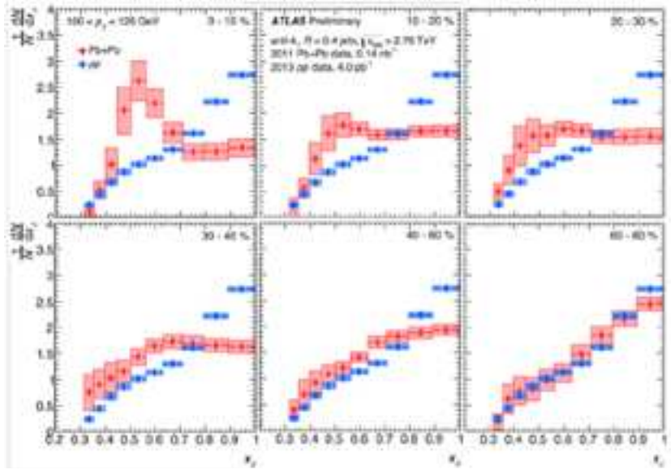
New ATLAS Results Presented at Quark Matter 2015

7 October - ATLAS Collaboration

The Quark Matter 2015 conference has just concluded in Kobe, Japan. Over 700 physicists made the trip to discuss the latest developments in the field.

ATLAS prepared a variety of new results using data collected since 2010. These include exciting new measurements of di-jet asymmetry, jet sub-structures, muon suppression in lead-lead collisions, and measurements of the "ridge" in proton-proton collisions. ATLAS also presented the first measurement of the forward-backward multiplicity correlations in all three collision systems.

Continue to read on: **http://cern.ch/go/H9V6**



New measurements of the momentum imbalance in the di-jet system, using a distribution parameter known as x_J

Neutrinos: after the Nobel Prize, the hunt continues

6 October

CERN congratulates the two laureates of the 2015 Physics Nobel Prize: Takaaki Kajita, from the Super-Kamiokande Collaboration in Japan, and Arthur B. McDonald, from the Sudbury Neutrino Observatory (SNO) in Canada. They were awarded the prize for: "the discovery of neutrino oscillations, which shows that neutrinos have mass". The two experiments independently demonstrated that neutrinos can change or "oscillate" from one type to another. This discovery at the turn of the millennium, more than 40 years after the prediction of the phenomenon by Italian physicist Bruno Pontecorvo, has had a profound impact on our understanding of the Universe.

Continue to read on: **http://cern.ch/go/7Stg**

View of the SNO detector under construction. (Image: SNO)

TAKE NOTE

WORK ON THE BUILDING 4 CAR PARK AND CLOSURE OF ENTRANCE A

From 6 July to 31 October 2015, the GS department will be carrying out renovation work on the car park next to Buildings 4 and 5. This work is aimed at improving safety on and around the car park for all users, particularly children attending the nursery school, pedestrians and cyclists.

The work on the car park will be conducted in two stages so that half of the parking spaces will always be available, in order to limit the impact on users as much as possible (the closed-off areas will be clearly indicated). When the work is completed, the car park will have been completely renovated, with new surfacing and road markings, high-quality lighting and more parking spaces (+5%).

During the work, part of the car park will be inaccessible, which is likely to make it more difficult to find a parking space. We therefore invite you to park in the Globe car park during this period.

The renovation work will also affect Entrance A (Route Bell), which will be fitted with a fully automated road gate, similar to the one at Entrance C. For increased convenience and safety, two turnstiles for access by pedestrians and cyclists will also be installed. Entrance A will also be closed from 6 July but should be operational again by the end of September.

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

GS Department

IT'S TIME TO GO "BACK TO THE FUTURE"!

Grab your hoverboard, charge up your flux capacitor and join the CERN CinéClub to watch the "Back to the Future part 2" film [1989] that takes the characters into the future to 21 October 2015.

"Back to the Future Part II" film screening
Wednesday, 21 October 2015 at 6 p.m.
Council Chamber (503-1-001)
(in English, with French subtitles)

Watch how the film-makers imagined we'd live in 2015, from flying cars to hydrated pizzas and much more, in this iconic film from the 1980s. This special screening is a collaboration of the CERN CinéClub and CERN social media.

"Where we're going, we don't need roads"

QUANTUM @ THÉÂTRE FORUM MEYRIN | 30-31 OCTOBER

The Gilles Jobin Company has the pleasure of welcoming you to QUANTUM @ Théâtre Forum Meyrin.

QUANTUM @ Théâtre Forum Meyrin
Friday, 30 October - 8.30 p.m.
Saturday, 31 October - 7.00 p.m.

SPECIAL PRICE FOR CERN PERSONNEL: 15 CHF upon presentation of your CERN card (regular price: 25 CHF/20 CHF).

QUANTUM is a "creative collision" between 2012 Arts@CERN resident artists Gilles Jobin, choreographer, and Julius Von Bismarck, visual artist. Von Bismarck's lumino-kinetic installation lights up the stage while Carla Scaletti's music score uses real LHC "sonified" data! Physicists Michael Doser and Nicholas Chanon participated in the creation as scientific advisors to the choreographer. Created at the CMS experiment for the CERN Open Days in 2013, QUANTUM comes back to Geneva at Théâtre Forum Meyrin for its 50th performance after a 100,000 km world tour that took the company from New York to San Francisco, Vancouver to South America and around Europe!

Théâtre Forum Meyrin offers an art and sciences programme around QUANTUM:

Friday, 30 October

- **7 p.m.**: *"En quête de matière"*, film by Mark Levinson
- **9.30 p.m.**: talk after the show and meet the artist

Saturday, 31 October

- **4 p.m.**: *"En quête de matière"*, film by Mark Levinson
- **5:15 p.m.**: debate - *"Art et Sciences"* Monica Bello, Head of Arts@CERN, Gilles Jobin, choreographer, Sami Kanaan, Administrative Councillor in charge of Culture and Sport, physicist by training, Frédéric Plazy, Director of *La Manufacture* and astrophysicist.
- **8.30 p.m.**: *"La Fièvre des particules"*, film by Mark Levinson

Following QUANTUM, the Gilles Jobin company will be organising an exceptional Seminar and Research Workshop for artists and scientists.

GVA Sessions Made in Meyrin
"Choreography in the Quantum space"
31 October to 6 November 2015
in Geneva

Guest of honour: India

Guests and speakers: Gilles Jobin, choreographer (CH), Nicholas Chanon, CERN physicist and CNRS researcher (FR), Monica Bello, Head of Arts@CERN (ES), Carla Scaletti, composer and software designer @symbolicsound (USA), Minerva Muños, physicist and choreographer (MX), Peter Mettler, film director (CAN), Sara Camnasio, astronomer (USA) and more…

For GVA Sessions information and to sign up go to: **http://cern.ch/go/gxP7**.

Open to artists and scientists!

More information on QUANTUM on: ***http://cern.ch/go/W6F6****.*
Reservations on: ***http://cern.ch/go/Hhv8****.*

VACCINATION AGAINST SEASONAL FLU

The Medical Service once again recommends you to get your annual flu vaccination for the year.

Vaccination is the most effective way of avoiding the illness and any serious consequences and protecting those around you. The flu can have especially serious consequences for people with chronic conditions (diabetes, cardio-vascular disease, etc.), pregnant women, infants, and people over 65 years of age.

Remember, anyone working on the CERN site who wishes to be vaccinated against seasonal flu should go to the Infirmary (Building 57, ground floor) with their vaccine.

The Medical Service will issue a prescription on the day of the vaccination for the purposes of reimbursement by UNIQA.

NB: The Medical Service cannot provide this vaccination service for family members or retired members of the personnel.

For more information:

- The "Seasonal flu" flyer by the Medical Service (**http://cern.ch/go/TS9B**)
- Recommendations of the Swiss Federal Office of Public Health (**http://cern.ch/go/zCW9**)

CERN Medical Service

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.

CLOSURE OF THE CAR POOL IN BUILDING 130 UNTIL 6 NOVEMBER

The Car Pool, Building 130, will be closed from Friday, 9 October until Friday, 6 November for renovation.

All activities, such as SIXT rental cars and maintenance of the CERN car fleet, will be temporarily transferred to the Car Pool at Building 124.

Mobile phone: 161113 (+41 75 411 1113).

Thank you in advance for your understanding.

GS-IS Group

REGISTER NOW FOR ISOTDAQ 2016

The International School of Trigger and Data Acquisition (ISOTDAQ) 2016 is the seventh in a series of International Schools dedicated to introducing MSc and PhD students to the "arts and crafts" of triggering and acquiring data for physics experiments.

The main aim of the school is to provide an overview of the basic instruments and methodologies used in high energy physics, spanning from small experiments in the lab to the very large LHC experiments, emphasising the main building blocks as well as the different choices and architectures at different levels of complexity. About half of the school time will be dedicated to laboratory exercises where the students are exposed to most of the techniques described in the lectures.

The 7th International School of Trigger and Data Acquisition will be held in the Lopatie Conference Centre on the campus of the Weizmann Institute of Science in Rehovot, Israel. Lectures, hands-on exercises, breakfast, lunch and coffee breaks will be held in the Centre. Accommodation is within walking distance at the Reisfeld Residence of the Hebrew University Faculty of Agriculture and the San Martin Guest House on the Weizmann campus.

Since places are limited, acceptance to the school is by a selection committee.

Apply on: http://cern.ch/go/S7q6
Applications are accepted until
31 October 2015.

Find out more about the school on: ***http://cern.ch/go/Q76L****.*

Markus Joos, on behalf of the organisers

2016 JOINT UNIVERSITIES ACCELERATOR SCHOOL (JUAS) - REGISTRATIONS

The registrations for the 2016 session of the Joint Universities Accelerator School (JUAS) are now open.

Applications are welcome from second-year Master and PhD and for physicists wishing to further their knowledge in this particular field.

The deadline for submission of the full application form is **30 October 2015**.

2016 EUROPEAN SCHOOL OF INSTRUMENTATION IN PARTICLE AND ASTROPARTICLE PHYSICS (ESIPAP) - REGISTRATIONS

The registrations for the 2016 session of the European School of Instrumentation in Particle and Astroparticle Physics (ESIPAP) are now open.

Applications are welcome from second-year Master and PhD and for physicists wishing to further their knowledge in this particular field.

The deadline for submission of the full application form is **30 October 2015**.

TRAINING

PLACES AVAILABLE - TECHNICAL MANAGEMENT COURSES (UP TO THE END OF 2015)

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

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

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.**

PLACES AVAILABLE – LEADERSHIP PROGRAMME (UP TO THE END OF 2015)

Please find here the courses in the field of Leadership scheduled up to the end of 2015 and which still have places available.

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

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.**

PLACES AVAILABLE - PERSONAL DEVELOPMENT AND COMMUNICATION COURSES (UP TO THE END OF 2015)

Please find here the courses in the field of personal development and communication scheduled up to end of 2015 and which still have places available.

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

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**.

Upcoming Technical Management courses (in chronological order)

		Language	Next Session	Duration	Available places
	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 Scheduling and Costing	English	13/14 October	2 days	3
	Managing by Project GDPM	English	21/22 October	2 days	2
	Selecting the right person for CERN	English	19 November	1 day	6
Extra Session	Procurement and Contract Management of Supplies	English	24 November	1 day	3
	Project Engineering	English	10/11 December	2 days	8
New	Innovation Management in Horizon 2020	English	11 December	5 hours	17
New	Gestion de la maintenance	French	14/16 December	2.5 days	6

	Language	Next Session	Duration	Available places
Eléments essentiels de la gestion du personnel pour les superviseurs (adapté de « CDP pour superviseurs »)	French	Module 1 - 2, 3 November Module 2 - 11 December Module 3 - 21, 22 January	5 days	8 places
Comment, en tant que superviseur, tirer le meilleur parti de l'entretien annuel	French	20 November	1 day	8 places
How to get, as a supervisor, the most out of the annual interview	English	30 November	1 day	10 places

Newly launched communication course

Communiquer avec impact	French	12, 13 November	2 days	5 places

	Language	Next Session	Duration	Available places
Voice and Nonverbal Behaviour in Speech Communication	English	19-20 November	2 days	4 places
Communicating to Convince	English	23-24 November	2 days	4 places
Négociation efficace	French	3-4 November	2 days	9 places
Les enjeux de la voix et du comportement non verbal dans la communication orale	French	5-6 November	1.5 days	6 places
Handling Difficult conversations	English	20 November 27 November 5 February 2016	3 days	3 places
Animer ou participer à une réunion de travail	French	30 November 1, 2 December	3 days	5 places
Communiquer pour convaincre	French	25-26 November	2 days	7 places

The following places are available on the newly launched Communication workshops:

	Language	Next Session	Duration	Available places
Communication: Science or Art? (Workshop 1)	English	19 November	1 day	7
Communication : Science ou Art ? (Atelier 1)	French	27 November	1 day	8
Communiquer avec succès en milieu interculturel (Atelier 2)	French	4 December	1 day	5
Effective Cross Culture Communication (Workshop 2)	English	20 November	1 day	7

LAUNCH OF TECHNICAL TRAINING COURSES FOR PROGRAMMERS

This autumn, two new technical training courses have been launched for scientists and engineers at CERN who undertake programming tasks, particularly in C and C++. Both courses are taught by Andrzej Nowak, an expert in next-generation and cutting-edge computing technology research.

The training courses are organised in cooperation with CERN openlab and are sponsored by the CERN IT department – there is only a nominal registration fee of 50 CHF. This is an opportunity not to be missed!

- **Computer architecture and hardware-software interaction (2 days, 26-27 October)**

  The architecture course offers a comprehensive overview of current topics in computer architecture and their consequences for the programmer, from the basic Von Neumann schema to its modern-day expansions. Understanding hardware-software interaction allows the programmer to make better use of all features of available computer hardware and compilers. Specific architectural features are discussed (such as execution ports, branching algorithms, etc.), as well as instruction sets, compilers, memory operation and architecture, fundamentals of floating point and acceleration. Demo labs are included.

  Participants can register via the training catalogue on: **http://cern.ch/go/78Mq.**

- **Programming and environments for parallelism (4 days, 3-6 November)**

  The parallelism course dives into a wide range of parallel programming techniques, whether data- or task-parallel. We start with an overview of patterns and look at trade-offs, pitfalls and available parallel programming environments – with a particular focus on OpenMP4, Threading Building Blocks and Cilk. The last day is an advanced class devoted to fine-tuning and balancing parallel programs using modern frameworks, runtimes and APIs. Demo labs are included.

  Participants can register via the training catalogue on: **http://cern.ch/go/78Mq.**

For more information, please contact **Technical.Training@cern.ch**.