CERN Bulletin

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NEW WINGS GIVE ICARUS FLIGHT FOR SECOND NEUTRINO HUNT

In the framework of the CERN Neutrino Platform (CENF) project, the ICARUS detector is being refurbished before being sent to the US in search of sterile neutrinos.

One of the two ICARUS time projection chambers being refurbished at CERN in a clean room. (Image: Max Brice/CERN)

It's a big shining box, 4 metres high, 20 metres long: this magnificent detector arrived at CERN 16 months ago and since then it is undergoing a complete refurbishing. ICARUS, a 760-ton detector filled with liquid argon (LAr) whose technology was first proposed by Carlo Rubbia in 1977, was used between 2010 and 2014 at the INFN Gran Sasso Laboratory in Italy to study neutrino oscillations using a beam of neutrinos produced at CERN. After its overhaul at CERN, which should last until the end of 2016, it will be shipped to Chicago to start a second life. It will be part of the Short Baseline Neutrino (SBN) programme at Fermilab, dedicated to the study of sterile neutrinos (see Box). The refurbishment is part of the CERN Neutrino Platform (CENF) project, started in 2014, to follow the recommendations of the European Strategy for Particle Physics, and it is done in collaboration with the INFN and Fermilab. "The Neutrino Platform pulls together a community that is scattered across the world," says Marzio Nessi, CERN Neutrino Programme project leader. "CERN has committed significant resources to support R&D in all aspects of neutrino research, and ICARUS's refurbishment is the first beneficiary of this programme."

The ICARUS detector is made up of two modules; each module is filled with high-purity liquid argon, it has a cathode plane in the middle and a wire chamber at each side forming a Time Projection Chamber (TPC). When an energetic particle passes inside the volume, it creates ionizing radiation along its track. The electrons thus created drift towards the sides of the detectors, where three layers of parallel wire planes register the arrival time and the position of the drifted electrons. By combining these position data with the drift time – established also thanks to photomultipliers placed after the wire planes –

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A WORD FROM THE DIRECTOR-GENERAL

NEWS FROM COUNCIL

With this message I would like to share with you some highlights of this week's Council meetings.

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NEWS

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A WORD FROM THE DIRECTOR-GENERAL

(Continued from page 1)

NEWS FROM COUNCIL

A major topic was the approval of CERN's Medium Term Plan (MTP) 2017-2021, along with the budget for 2017. In approving the document, Council expressed its very strong support for the research programme the MTP outlines for the coming years.

Another important topic this week was the formal approval of the High Luminosity LHC project, HL-LHC. This comes as extremely good news not only for CERN, but also for particle physics globally. HL-LHC is the top priority of the European Strategy for Particle Physics in its 2013 update, and is part of the 2016 roadmap of the European Strategy Forum on Research Infrastructures, ESFRI. It was also identified as a priority in the US P5 strategy process, and in Japan's strategic vision for the field. It secures CERN's future until 2035, and ensures that we will achieve the maximum scientific return on the investment in the LHC. The Finance Committee passed some HL-LHC contract adjudications this week, allowing construction work to begin without delay.

Council also noted that the measures put in place in 2010 to rebalance the Pension Fund show the desired effect with an improved funding ratio over the years.

Enlargement was also high on the agenda, with confirmation that Romania is depositing its documents of accession to Membership with UNESCO, and progress being made with many other countries. Following a report from the fact-finding task force to India, Council gave the go ahead to submit the model agreement for Associate Membership to the Indian government. A task force will be going to Lithuania next week.

Finally, Council and its committees applauded the superb performance of the LHC and the excellent accomplishments of the CERN scientific programme in general.

The Directors and I would like to emphasize that these results were only possible thanks to the dedication and competence of the CERN personnel.

In conclusion, this has been a constructive week with many positives to take forward.

Fabiola Gianotti

NEW WINGS GIVE ICARUS FLIGHT FOR SECOND NEUTRINO HUNT

(Continued from page 1)

one can reconstruct a three-dimensional image of the event.

A thorough refurbishment of the ICARUS detector

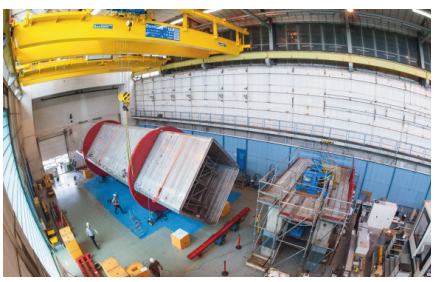
The renovation campaign concerns many parts of the experiment. New-generation, more efficient photomultipliers have been installed. They are critical components as the Fermilab neutrino beam – which will be sending neutrinos to the chain of detectors of the SBN – will be pulsed at the microsecond level, but the electron drift time in the chamber is of the order of milliseconds. During this time, other particles, such as cosmic rays particles, can cross the detector and accumulate in the read-out system. The photomultipliers will be able to discard the unwanted, out-of-beam time events.

Moreover, as the quantity of electrons released by the ionizing particle is extremely small, high-quality electronics are essential to distinguish them from background noise. The electronics have been completely redesigned in the INFN laboratories, with new signal amplifiers and a better signal-to-noise ratio.

Furthermore, the metallic cathode plane in the middle of the detector has been smoothed at the millimetre level to ensure a perfectly uniform electrical field. This is important to perform momentum measurements via multiple scattering of the very energetic particles escaping the detector.

Finally, the argon recirculating and purifying system has also been improved. To prevent ionization electrons recombining with circulating impurities (mostly oxygen, carbon dioxide and water molecules), a high degree of purity is required, at a level better then 0.1 part per billion. ICARUS has a double recycling system that has been revamped by the cryogenic group at CERN.

"Improving the performances of a detector already successfully operating in the Gran Sasso underground laboratory has been extremely challenging in many respects" says Claudio Montanari, ICARUS Technical Coordinator. "Indeed, in order to make it fully functional to operate on the surface, many different aspects including data acquisition, background rejection, timing and event reconstruction needed to be rethought."



The ICARUS cryostat is being rotated so that aluminium welding can always be done in a flat position. (Image: Max Brice/CERN)

A real challenge: high-quality aluminium welding of the cryostat

A second, fundamental part of the renovation project is the engineering of the cryostat. It was decided that it would be built in aluminium, mainly for logistics reasons, but this decision brought many challenges. Aluminium welding is generally more difficult than a stainless steal one, as it must be done in a flat position to maximise its effectiveness. Secondly, the welding must be of a very high-quality, to avoid introducing additional, unwanted, impurities. Finally, the cryostat module is just barely bigger than the detector: over a length of 20 meters, the tolerance is of the order of a few millimetres. The Mechanical & Materials Engineering group at CERN, led by Francesco Bertinelli, is pre-assembling the 4x4 meter extruded panels, juxtaposing and tack welding them with a few supporting ribs. To have clean, high-quality welding, the team is going to rotate the entire pre-assembled cryostat like a giant roaster, in order to weld always in a flat position. This process will last several months, at the end of which the cryostat is ready to host the detector. "The cryostat's assembly engineering is an excellent example of how team work is conducted at CERN," says Bertinelli. "We have a group made up of people with various backgrounds and skills, different nationalities, cultures and languages, but we are closely working together towards our common goal."

When the cryostat will be ready it has to be moved out of its current building, brought in front of the clean room where the detector is, and the two parts will be assembled. At the beginning of 2017, an exceptional load transport will carry it all the way to Fermilab to start its new adventure.

Stefania Pandolfi

See the video:
cern.ch/go/7Xvx

The Short Baseline Neutrino (SBN) programme

The SBN programme has been approved after, in the past decades, the Liquid Scintillator Neutrino Detector (LSND) and MiniBooNE experiments obtained, some unexpected results, showing tensions with the standard model of particle physics in which there are only three types ('flavours') of neutrinos. Indeed, LSND reported hints of the existence of a fourth type of neutrino; MiniBooNE, which used the same beam line at Fermilab that will be used for the SBN programme, found an excess of low-energy particles events. Some theories ascribe this apparently strange neutrino behaviour to the presence of a fourth, sterile, neutrino flavour. The suite of experiments of the SBN programme are meant to cast light on this mystery.

LHC REPORT: HIGHS AND WET LOWS

Summertime, and the livin' is easy… not so for the LHC, which is just entering four weeks of full-on luminosity production.

In the two weeks that followed the first technical stop (7-9 June), the LHC has demonstrated once again an outstanding performance. Thanks to the excellent availability of all systems, peaking at 93% in week 24, it was possible to chain physics fill after physics fill, with 60% of the time spent in collisions.

We have now surpassed the total integrated luminosity delivered in 2015 (4.2 fb^{-1}). The integrated luminosity for 2016 now exceeds 6 fb^{-1} for each of the two high-luminosity experiments, ATLAS and CMS. Long fills, exceeding 20 hours, are now part of regular operation, with some producing more than 0.5 fb^{-1}. With the summer conferences approaching, this certainly provides a good dataset for the LHC experiments to analyse and present.

Several records were broken again, namely the highest instantaneous luminosity – over 9×10^{33} cm^{-2} s^{-1} on 14 June – and the largest integrated luminosity in one fill of around 550 pb^{-1} delivered in 29 hours between the 20 and 21 June. The LHC is now very close to the design luminosity value of 10^{34} cm^{-2} s^{-1}.

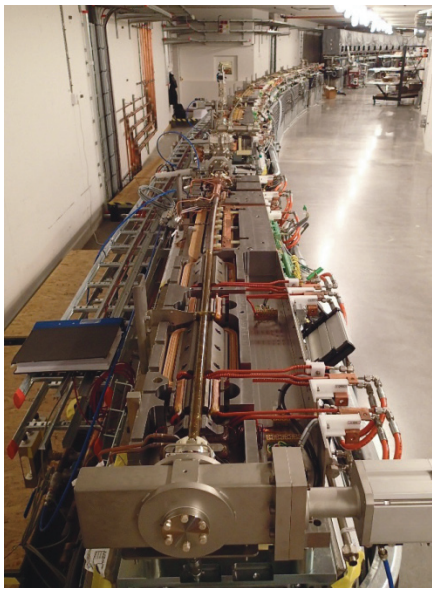
This luminosity production period was briefly interrupted for the commissioning of the high beta-star beam cycle. Contrary to what is done in the normal physics cycle, in the high beta-star cycle, the beam size at the interaction points are increased before being put into collision. For this high beta-star cycle, for example, the beta functions at the interaction points 1 (IP1) and 5 (IP5) were increased to 2.5 km, while for the normal cycle these are normally squeezed to 40 cm. This results in beams with "large" transverse size - about 1 mm - and very small angular divergence - about 0.4 microradian - at the interaction point. This allows precise small angle scattering studies by the forward physics experiments AFP, ALFA and TOTEM. By comparison, the transverse beam sizes in IP1 and IP5 during normal physics cycles are of the order of 13 micrometres and the divergence, around 33 microradians. The commissioning of this high beta-star cycle has been successful and was completed in two fills, spanning a period of around 18 hours. Furthermore, the optic parameters have been measured and corrected with a remaining error of only few percent. Some validation steps are still required prior to the dedicated physics run scheduled for September.

Unfortunately, the heavy rain of the last weeks has taken a toll not only on our spirits, but also on the LHC. On Tuesday, 14 June in the morning, dedicated sensors alerted the Technical Infrastructure (TI) operators to the presence of water in the LHC at point 3. Here, the LHC tunnel crosses an underground stream descending the Jura, and in periods of heavy rain, water infiltrations inside the LHC can occur. Interventions by several teams were necessary in order to repair the damage caused by the water, the most severe being water infiltration inside electric and electronic equipment of the collimation system, grounding the LHC for almost 48 hours.

Enrico Bravin and Stefano Redaelli for the LHC team

VACUUM CHAMBERS FULL OF IDEAS FOR THE SWEDISH SYNCHROTRON

CERN's Vacuum, Surfaces and Coatings group has contributed to the development of vacuum chambers for the MAX IV synchrotron, which has just been officially opened in Sweden.



A section of the new 3 GeV MAXIV synchrotron at the time of installation. In the centre of the magnets you can see the vacuum chamber developed in collaboration with CERN. (Photo: Marek Grabski, MAX IV Vacuum group)

On 21 June, the King and the Prime Minister of Sweden officially opened MAX IV, a brand-new synchrotron in Lund, Sweden. The summer solstice, the longest day of the year, was deliberately chosen for the ceremony: MAX IV, a cutting-edge synchrotron, will deliver the brightest X-rays ever produced to more than 2000 users.

Some 1500 kilometres away, a team at CERN followed the opening ceremony with a touch of pride. The Vacuum, Surfaces and Coatings group in the Technology department (TE-VSC) participated in the construction of this new synchrotron. Its contribution lies at the very heart of the accelerator, in its vacuum chambers. The group developed the coating for most of the vacuum chambers in the larger of the two rings, which has a circumference of 528 metres and operates at an energy of 3 GeV.

The CERN group was brought in to develop the coating for the vacuum chambers using NEG (Non-Evaporable Getter) material. A thin, micrometric layer of NEG ensures a high-grade vacuum: it traps residual gas molecules and limits the release of molecules generated by the bombardment of photons. The technology was developed at CERN in the late 1990s for the LHC: six kilometres of vacuum chambers in the LHC, i.e. those at ambient temperature, are coated with NEG material. CERN's expertise in the field is therefore unique and recognised worldwide.

Prototype of the surface treatment process, developed at CERN, to coat the vacuum chambers of the MAX IV synchrotron. (Photo: Pedro Costa Pinto/CERN)

"The MAX IV design was very demanding, as the cross-section of the vacuum chambers is very small, just 2.4 centimetres compared to 8 cm at the LHC," explains Paolo Chiggiato, TE-VSC group leader. "In addition, some parts were geometrically complex." Synchrotron light is extracted to experimental areas every 26 metres. At the extraction point, the chamber comprises two tubes that gradually diverge.

The CERN group began its involvement in the project in 2014 and developed the chemical surface treatment method used for almost all the vacuum chambers in the large ring of MAX IV. Treatment of the cylindrically symmetrical vacuum chambers was carried out by a European firm and a European institute, to which CERN had already transferred the technology in the past. The most complex chambers, around 120 in total, were treated at CERN. Two benches for sputtering, the coating technique used, were developed at CERN. "These benches are equipped with a wire whose material is deposited onto the surface of the chamber. For the MAX IV chambers, the wire had a diameter of 0.5 millimetres and its alignment was critical," explains Mauro Taborelli, leader of the Surfaces, Chemistry and Coatings section in the TE-VSC group. "The procedure was all the more complicated because the extraction chambers, in which the photons are extracted, have a tiny vertical aperture, of around 1 millimetre," confirms Pedro Costa Pinto, leader of the team responsible for the vacuum deposition process.

The vacuum chambers were delivered in 2014 and 2015. "It's essential for us to participate in these types of project, which require lots of ingenuity, to be able to maintain and build on our know-how," says Paolo Chiggiato. "By developing our expertise in this way, we will be ready for new projects at CERN."

Corinne Pralavorio

CERN'S FIREFIGHTERS HONE THEIR TRAUMA RESPONSE SKILLS

Seven CERN firefighters have been trained in how to treat trauma victims. This training forms part of the Fire Brigade's efforts to acquire specialist knowledge.

On 23 and 24 May, the CERN Fire Brigade welcomed five instructors from Life Support France, an association that offers training in pre-hospital emergency treatment, to provide a course on Pre-Hospital Trauma Life Support (PHTLS).

Fifteen "trainees" – seven CERN firefighters and eight rescue and healthcare professionals from outside the Organization (nurses, paramedics and firefighters) – took part in the course, at the end of which they were awarded an official PHTLS certificate, valid for four years. Of course, the whole PHTLS programme cannot be covered in just two days, so several months of additional work were required in advance of the course, particularly to acquire the necessary theoretical knowledge.

The seven CERN firefighters who now have PHTLS certification are, for the majority, members of the Fire Brigade's paramedic team, which currently comprises 12 people.

The five remaining members of the team will take the course in 2017. "This training is complementary to the courses we have established in the framework of our collaboration with the *Hôpitaux universitaires de Genève* (HUG)," explains Eric Herbé, who is in charge of ALS (Advanced Life Support) activities in the Fire Brigade. "All HUG paramedics already have the PHTLS certificate, which complements the *'brevet fédéral de technicien ambulancier'* qualification."

During the two-day course, the participants completed various simulations, in particular of falls and road traffic accidents, two of the main causes of severe trauma. They learnt when and how to remove someone from a vehicle in an emergency, as sometimes the situation does not allow rescue services enough time to cut the vehicle open. One of the main objectives of the training course is to learn how to manage priorities in accordance with the principle "deal with the most life-threatening situations first".

The fifteen trainees who took the PHTLS course at CERN, with the instructor team.

"In the Fire Brigade we are always striving to acquire new specialist knowledge," adds Eric Herbé. "All of our firefighters, particularly the paramedic team, follow training courses, with the aim of improving the skill set of the whole Brigade."

Anaïs Schaeffer

NEWS FROM HR: A WORD FROM ANNE-SYLVIE CATHERIN

Anne-Sylvie Catherin, head of HR Department, looks back over her years at CERN before taking up her new position at the European Central Bank.

At the end of July, I will be leaving CERN on a special leave of absence to take up a new position at the European Central Bank. This is a new chapter in my career, in a new context with its own challenges, and as I prepare for it, I would like to take a little time to look back over my years at CERN and share with you the enriching journey it has been, both for myself and for HR.

It has always been my strong belief that any organisation's greatest asset is its people. When an HR professional believes that, it's only a short step to the conclusion that the best way to nurture those people is by adopting a professional approach to HR. In this respect, I arrived at a very fortuitous time. Enrico Chiaveri was head of HR and, although his background is in physics, we shared that same conviction. Enrico was the icebreaker in driving change, and as a result, much of what we have achieved during my term as head of the HR department was set in motion by him. I also had the privilege to find constant, unfailing support from Rolf Heuer and Sigurd Lettow, who both wanted to reach the same level of excellence in HR management as that prevailing in other areas of the Organization.

So what have we achieved? First and foremost, we have built an HR strategy where originally there was none. We have improved dialogue with staff, at first through a staff survey and then through regular meetings to present our activities, their purpose and meaning for CERN in a timely manner. We have introduced multiple communication channels to gather staff feedback, ranging from focus groups to discussions with the HR Frontline and live chats. We have developed a Code of Conduct, which has been widely adopted in many areas, including, for example, guidelines for CERN people active on social media. We have put in place policies around diversity, going beyond gender, and recruitment, striving to attract and retain the best candidates both at the initial recruitment stage and on indefinite contracts. And we have worked to ensure that our learning and development offer matches the Organization's needs, is fully integrated into HR processes such as the MARS exercise, and provides opportunities for each and every one of us to constantly grow and thrive in our respective roles.

My time at CERN has seen an entire Five-Yearly Review cycle unfold. Through this process, we have integrated several important measures around diversity, and developed a new career structure in close collaboration with the Department Heads and in full concertation with the Staff Association. I would like to thank them all wholeheartedly for their constructive approach to our deliberations. The new career structure is in the final stages of development, with the finishing touches being made as I write, with a view to its implementation on 1 September.

Going forward, there is still work to be done in completing the HR strategy, notably with two remaining pillars to be put in place. These are capacity planning and talent management, and both have been endorsed by the Directorate. James Purvis will be taking over from me as Head of Department, and I have every confidence that he will thrive in this new role. James has been a member of the HR Department's Management Board throughout the strategic development process and I am therefore leaving CERN safe in the knowledge that the HR Department is in good hands.

A common thread underlines all the work done by the HR Department over recent years: we endeavour to put in place tools and policies that help all of us to lead our working lives around shared values and standards of behaviour, and we have nurtured a sustainable approach to the management of our people: our greatest asset. On this note, I would like to say thank you to Fabiola Gianotti and Martin Steinacher for their support and understanding, as well as to all the people both inside and outside the Department with whom I have relentlessly worked side by side to achieve the progress we have made to date. I am ending this journey with a deep sense of gratitude for the trust the Organization has placed in me over the past years and for the numerous opportunities I have been given. I will be taking fond memories away with me, and I look forward to seeing this great organisation continue to go from strength to strength. In the meantime, I look forward to seeing many of you at my last HR public meeting at 3 p.m. on Tuesday, 28 June in the Council Chamber.

Anne-Sylvie Catherin

DOUBLE VICTORY FOR CERN AT THE "TOUR DU CANTON DE GENÈVE"

Once again, the CERN Running Club has caused a stir at the *Tour du Canton de Genève*.

The team "Entreprise femmes" *with, from left to right, Lucie Baudin, Joanna Stanyard, Maïté Barroso-Lopez, Ana Garcia-Tabares and Elisa Garcia-Tabares (Claire Hauw, also member of the team, is absent from the photo).*

This year, the event, which is held over four stages in the Geneva area, took place on Wednesday evenings from 25 May to 15 June.

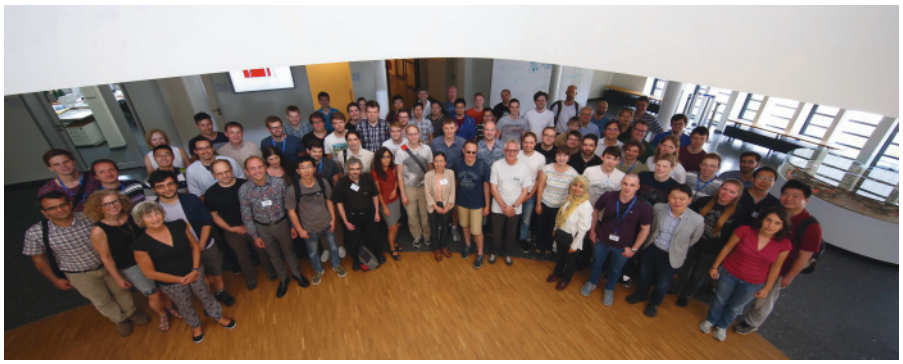
CERN shone in the *"Entreprise"* categories, taking first place in both the female and male group rankings. There were also some excellent individual results, with particularly impressive times in the *"Vétérans 2"* category (Camille Ruiz Llamas and Graham Dore were placed third and sixth respectively).

See the full results on the Tour *website (**cern.ch/go/MMx6**) and on the CERN Running Club website **(cern.ch/go/wGn7)**.*

CERN Running Club

CAS ON FREE-ELECTRON LASERS AND ENERGY RECOVERY LINACS IN HAMBURG

The CERN Accelerator School (CAS) and DESY held a jointly-organised specialised course on Free-Electron Lasers and Energy Recovery Linacs (FELs and ERLs) in Hamburg, Germany, from 31 May to 10 June 2016.



The course was held in the Hotel Scandic Emporio in Hamburg and was attended by 68 participants of 13 nationalities, coming from countries as far away as China, Iran and Japan.

The intensive programme comprised 44 lectures and one seminar. Following introductory lectures on electromagnetism, relativity and synchrotron radiation issues, the basic requirements of linacs and ERLs were discussed. Detailed lectures on the theory of FEL science followed. Undulators and the process of lasing and seeding were covered in some detail along with lectures on various beam dynamics and beam control issues. Case studies, for which seven hours were allocated, completed the academic programme. For these, the students were divided into small groups and tasked with completing the basic design of an FEL or an ERL, before presenting their results on the final afternoon. An all-day visit to DESY with talks in the morning and visits to the facilities in the afternoon was also included in the programme.

In addition, the students had the opportunity to take part in a boat trip in Hamburg harbor and attend a dinner with an exclusive visit to the Miniatur Wunderland.

Next year, CAS will be holding a specialised course on Beam Injection, Extraction and Transfer from 10 to 19 March 2017 in Erice, Italy; a specialised course in collaboration with MAX IV Laboratory on Vacuum for Particle Accelerators from 6 to 16 June 2017 in Lund, Sweden; an Advanced Accelerator Physics course in the UK in late summer; and a Joint School on RF Technology at Hayama, Shonan Village Center, Japan, in late autumn.

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

CERN Accelerator School

NEW ARRIVALS

On Wednesday, 22 June 2016, recently recruited staff members and fellows participated in a session in the framework of the Induction Programme.

HR Department

Computer Security

DNS TO THE RESCUE!

Why you should be grateful to the Domain Name System at CERN.

Incidents involving so-called "drive-by" infections and "ransomware" are on the rise. Whilst an up-to-date and fully patched operating system is essential; whilst running anti-virus software with current virus signature files is a must; whilst "stop --- think --- don't click" surely helps, we can still go one step further in better protecting your computers: DNS to the rescue.

The DNS, short for Domain Name System, translates the web address you want to visit (like "http://cern.ch") to a machine-readable format (the IP address, here: "188.184.9.234"). For years, we have automatically monitored the DNS translation requests made by your favourite web browser (actually by your operating system, but that doesn't matter here), and we have automatically informed you if your computer tried to access a website known to host malicious content that could infect and compromise your computer, your password, your data, and your life. In parallel, we have used and will continue to use the DNS to block certain web addresses that are known to be malicious and that are used for wrongdoing against the Organization. Similarly, we also block some domains resembling the domain name "cern.ch" that - on a closer look - are different, like "cem.ch" or "cern.cn" (did you spot the difference?) in order to protect CERN against typo-squatting.

But the DNS can do more. Thanks to the IT networking team, the DNS infrastructure has been reinforced: the new set-up is more resilient to denial-of-service ("DoS") attacks. It also has another benefit: the DNS firewall. Our internet service provider "SWITCH" collects and provides lists of well-known and guaranteed malicious domains. The new DNS set-up allows us to incorporate their DNS firewall configuration such that all those domains are automatically blocked, too. Next time you hit on one of our landing pages for phishing (i.e. webpages trying to harvest your password) or malware, you should be grateful. Your computer might just have been one click away from getting infected*.

* Careful here! We can only protect your computers while they are connected to CERN's networks. From home, the malware might succeed!

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://security.web.cern.ch/security/reports/en/monthly_reports.shtml***

Stefan Lueders, Computer Security Team

A WORLD WITHOUT LIES?

Can a world without lies exist? Are there different types of lies, some more acceptable than others, or is that just an excuse that we use to justify ourselves? What consequences do lies have in the working environment?

If we look in the dictionary for the definition of "lie", we find: "A lie is a false statement made with deliberate intent to deceive". This simple definition turns out to be very useful when we feel stuck in intricate conflict situations where we suspect lies to have played a role. Examples may include supervisors presenting a situation in different ways to different colleagues; colleagues withholding information that could be useful to others; reports given in a non-accurate way; and rumours that spread around but cannot be verified.

Peter was very keen to lead a particular project. He spoke to his supervisor Philippe who told him that he had in fact already proposed him to the board. When he did not get the job, Peter shared his disappointment with Charles, one of the board members, and he was very surprised to learn that his name had never been put forward for consideration. Who should he believe?

Sometimes, a lie is implicit and only comes to the surface when the consequences of an action are revealed, leaving one with the realisation that they had been deliberately misled:

Carlo needs to appoint a project leader to replace a colleague who has recently retired. He sees this as an opportunity to reorganise his team and asks all the members to express their interest. Both François and Jane put themselves forward and he thanks them for their commitment. The same afternoon, the whole group gets an e-mail announcing that Mats, a young engineer from another department has been appointed to the position. When questioned, Mats tells them that this had been agreed weeks ago.

An act of omission, where the full truth of a situation is not shared, can also be perceived as a lie with damaging consequences:

Marc tells Anna that they have been asked to publish a status report on their joint project. He writes the report and sends it to her on Thursday for comment. Anna realises that the work of her team has been misrepresented and spends her weekend revising it. However, when she sends it to Marc on Monday morning, he tells her that the deadline has passed and that the report has already been published.

Finally, there are those insidious lies, based on rumours and obscure origins that are self-perpetuating and have long-lasting effects:

Helene is disappointed not to have been proposed for a promotion and asks Susan, her Group Leader, for an explanation. Susan reminds her that it is a collegial decision and says, "I didn't propose you because I knew that the others would block it" and adds, "they all have a negative impression of you".

Whatever the lie, regardless of whether the statement is totally false or only partially so, what really matters is the impact on the people concerned and what action can be taken to address it.

Challenging a lie with a view to understanding its source can prove to be constructive in that it may give us an insight into how we can correct misconceptions and maybe even restore the relationship and start rebuilding trust.

If, however, as the dictionary says, the deliberate intent is to deceive, we face a challenging situation, as it is extremely difficult to set the story straight without good faith on both sides.We always have the option of discussing the issue with higher management or turning to mediation or more formal processes to re-establish the truth, but this may turn out to be a rough journey as proving a statement to be false is no easy task.

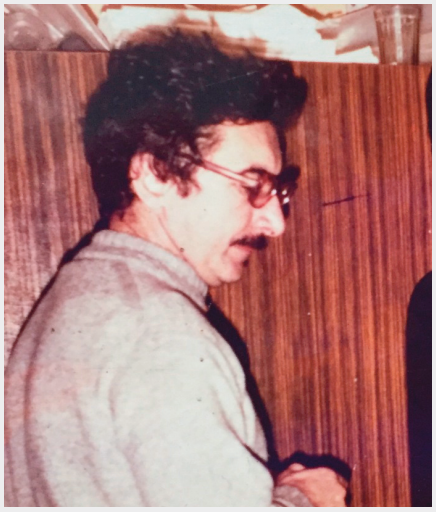
A much easier route, and one that is well within the grasp of each of us, would be to make sure that we do not give in to the temptation of perpetuating a lie. One way of doing this would be to refrain from circulating false information or even just sharing rumours. Perhaps a world without lies is an impossible construct, but surely we can refuse to be part of the game and choose to follow the path of integrity instead?

All previous Ombud's Corners can be accessed in the Ombud's blog: ***http://cern.ch/go/p9ZS***.

Sudeshna Datta-Cockerill

GUIDO VEGNI (1931 - 2016)

Guido Vegni, a renowned particle physicist and Professor at the University of Milan, passed away on Thursday, 2 June.



Professor Guido Vegni in 1976, at the Institute for High Energy Physics in Protvino, Russia.

Italian physicist Guido Vegni passed away on Thursday, 2 June. With his death we have lost a friend, an excellent physicist and a strong supporter of the CERN programme.

His long and fruitful involvement in particle physics started in the mid 1950s, when he joined the Milan nuclear emulsion group led by Giuseppe Occhialini in 1956. His thesis aimed to measure the spin-parity assignment of the K+ meson from its decay into three pions, contributing to the study of the famous "tau-theta puzzle", eventually solved by the discovery of the non-conservation of parity in weak interactions. In 1960, Guido was appointed "Assistant" to Professor G. Occhialini in Milan, the first step of a career that led to him eventually becoming the Chair of Elementary Particle Physics, a position he held until his retirement in 2006.

From 1963 to 1966, as a CERN Fellow, he joined the CERN, Ecole Polytechnique de Paris, Orsay, Milan and Saclay experiment using the Saclay 81 cm bubble chamber, and participated in the discovery of the ρ3(1690) (otherwise known as the g-meson).

At the end of the 1960s, a "live" target was built by the Milan group and used for the first time in an experiment (CERN, IC London, Milan and ETH Zurich) to study the diffractive dissociation of mesonic states on different kinds of nuclei. This target, composed of silicon detectors, measured the deposited energy to verify that a reaction had happened there. In the 1970s, Guido took part, within a collaboration formed between Dubna, Milan and Bologna, in several experiments at the Serpukhov accelerator, using a large magnetic spectrometer. Their "live" target allowed the detailed study of several states produced diffractively in the interactions of 40 GeV/c π^- on nuclear targets. The major results were the observations of two states, $\pi(1300)$ and $\pi(1800)$, interpreted as radial excitation of the pion.

At the beginning of the 1980s, this technique evolved into a "beauty decay detector" based on a telescope of planar sensors at the CERN-WA71 experiment; while at the start of the LEP era, Guido and his group moved to the DELPHI experiment, where they contributed significantly to the silicon microvertex detector, playing a pioneering role. Guido led a team that joined the collaboration in its early days, and remained right up until the commissioning of the final upgrade, which integrated pixel detectors in a collider experiment for the first time ever.

After LEP, his interest turned to the LHC and he became an enthusiastic supporter of the ATLAS experiment. He led the Milan group engaged in the design and construction of the ATLAS silicon pixel detector and made significant contributions to this effort.

Alongside his research, Guido was a passionate teacher and educator and motivated a number of his students to start careers in research. He was convinced of the need to improve the quality of science teaching from primary school onwards. He promoted a highly succesful training course for physics educators, relying on tools that anticipated the internet and the IT revolution.

Our warmest sympathy goes to his wife Anita, his daughters Isabella and Giulia and his son Ferdinando, together with their families.

We will all miss Guido sorely.

His friends and colleagues

Official news

STATEMENT ABOUT UK REFERENDUM ON THE EU

Dear Colleagues,

Many people have expressed their concerns about the consequences of the 23 June vote in the UK for CERN, and for the UK's relationship with CERN. CERN is an intergovernmental organisation subject to its own treaty. We are not part of the European Union, and several of our Member States, including Switzerland, in which we are headquartered, are not EU Members. Britain's membership of CERN is not affected by the UK electorate's vote to leave the European Union. We look forward to continuing the very constructive relationship we have shared with the UK, one of our founding members, long into the future.

CERN was founded on the principle of international collaboration, and our success over the years is built on that. We will continue to work proactively to encourage ever-greater international collaboration in particle physics, and to help ensure that the UK continues to play a very active role.

UK nationals remain eligible for all categories of employment at CERN, and UK businesses are eligible to bid for all contracts at CERN. The referendum result does not change anything for CERN employees, but employees of UK companies working under contract to CERN may have extra administrative procedures to follow than their EU counterparts before they can work at CERN.

CERN has its own agreements with its host states allowing CERN personnel to reside in either country. These agreements also allow spouses of CERN personnel to work in France and Switzerland under certain conditions. CERN personnel also have the right to retire in France and Switzerland under certain conditions. For non-EU countries, these conditions are more stringent than they are for EU countries.

CERN's core research programme is funded by our Member States, but we also benefit from many EU grants in areas ranging from IT to accelerator and detector development.

The referendum result does not affect CERN's relationship with the EU, so we continue to be eligible to apply for Framework programme funding. CERN Member States that are not EU Members, and do not have special arrangements with the EU, can participate in CERN-EU projects, but can not lead them, or receive EU funding.

As long as CERN is in receipt of EU funding to support Marie Skłodowska-Curie Fellows, UK nationals will be able to apply for such Fellowships at CERN.

Fabiola Gianotti

CHANGE OF MOBILE NETWORK COVERAGE IN FRANCE FROM 29 AUGUST

The change of mobile network coverage on the French part of the CERN site will take effect on 29 August and not on 11 July as previously announced.

From 29 August, the Swisscom transmitters in France will be deactivated and Orange France will thenceforth provide coverage on the French part of the CERN site.

This switch will result in changes to billing. You should also ensure that you can still be contacted by your colleagues when you are on the French part of the CERN site. Please consult the information and instructions in this official communication: **cern.ch/go/zFW7**.

IT Department

CHANGE TO CERN SAFETY RULES: ABOLITION OF SAFETY CODE A7

As from 3 June 2016 Safety Code A7 "Road traffic at CERN" is abolished.

CERN's current practice to follow French or Swiss road traffic regulations on the corresponding parts of the CERN site will continue to apply.

HSE Unit

Take note

CHANGE OF OFFICES FOR THE FAP DEPARTMENT

The FAP Department would like to inform personnel that, due to office renovation work, a number of FAP services currently located on the third floor of building 4 and on the first floor of building 33 will move to temporary offices in building 653 as from late June.

The following services will be relocated to:

- Accounting services (J. Robinson):
  - FAP-ACC-AP – Accounts Payable, to bldg 653-R-008 – C. Marme
  - FAP-ACC-GA – General Accounting, to bldg 653-1-007 – C. Poncet
  - FAP-ACC-PA – Salary Office, to bldg 653-R-011 – S. Baudat
  - FAP-ACC-PA – Claims, to bldg 653-R-007 – S. Baudat
- And the section FAP-TPR-MI - Monitoring and reporting (L. Lockwood) will be located in the office 653-1-016.

The removals will take place from Thursday 30 June until Tuesday 5 July 2016 inclusive and during this period, telephone and e-mail contact may be disrupted.

Temporary office numbers will be available in the CERN phonebook.

Thank you for your understanding.

FAP Department

ROADWORKS AROUND THE "LES CÈDRES" CAR PARK

Diversions will be in place on Route Scherrer and Route Bohr from 4 to 31 July.

As we announced in a previous article, the SMB department is currently installing vehicle registration plate readers at the entrances and exits of the *Les Cèdres* car park and of the Building 4 and 5 car park, both on the Meyrin site.

Please note that, due to the installation work involved:

- access to Buildings 50 and 52 via Route Scherrer (passing under the Building 50 walkway) will be closed from 4 to 8 July,
- access to the *Les Cèdres* car park via Route Scherrer will be closed from 4 to 14 July,
- access to the *Les Cèdres* car park via Route Bohr will be closed from 16 to 31 July,
- Route Bohr will be closed between Route Greinacher and Route Bell from 16 to 31 July.

Please also note that, following the completion of the work, the *Les Cèdres* car park will operate as a one-way system, with entry only from Route Scherrer and exit only onto Route Bohr.

Thank you for your understanding.

SMB Department

TOPICS

- European activities on Cryogenic Safety
- Collaboration in pressure relief experiments
- Research & Development
- Applicability of Rules & Regulations
- Applicability in large/medium scale projects
- Risk Assessment methodologies

Organising Committee

Carlos Arregui HSE/SEE/XP (CERN)
Simon Baird Head of HSE Unit (CERN)
Enrico Cennini Head of HSE/SEE Group (CERN)
Rachelle Decreuse HSE/DI (CERN)
Andre Henriques HSE/SEE/XP (CERN)
Simon Marsh HSE/SEE/XP (CERN)
Jodie Ridewood HSE/SEE (CERN)

Key dates and deadlines:

August 15th: Deadline for accommodation reservations at CERN Hostel
August 31st: Deadline for seminar registrations

A visitor tour is scheduled on 23rd September 2016 (Morning) and some CERN facilities will be shown (please note that the tour is reserved for our external participants).

Event Organised by CERN HSE Unit
Contact:
Andre Henriques (Andre.Henriques@cern.ch)
Jodie Ridewood (Jodie.Ridewood@cern.ch)

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https://indico.cern.ch/e/CryoSafety

Seminars

MONDAY JULY 04, 2016

09:15 **Summer Student Lecture Programme Course** Theoretical concepts in Particle Physics (5/5) **Main Auditorium**
10:20 **Summer Student Lecture Programme Course** Introduction to Accelerator Physics (1/5) **Main Auditorium**
11:25 **Summer Student Lecture Programme Course** Detectors (1/5) **Main Auditorium**

TUESDAY JULY 05, 2016

09:15 **Summer Student Lecture Programme Course** Detectors (2/5) **Main Auditorium**
10:20 **Summer Student Lecture Programme Course** Introduction to Accelerator Physics (2/5) **Main Auditorium**
11:00 **LHC Seminar** ATLAS seminar **Filtration Plant**
11:25 **Summer Student Lecture Programme Course** Standard Model (1/4) **Main Auditorium**

WEDNESDAY JULY 06, 2016

09:15 **Summer Student Lecture Programme Course** Standard Model (2/4) **Main Auditorium**
10:20 **Summer Student Lecture Programme Course** Introduction to Accelerator Physics (3/5) **Main Auditorium**
11:00 **GLOBE - Public Events** CineGlobe Estival - 6th Edition of the CineGlobe Film Festival **Globe Grounds**
11:25 **Summer Student Lecture Programme Course** Detectors (3/5) **Main Auditorium**
14:15 **BCD PlatForm** Global EFT fits in the top-quark sector

THURSDAY JULY 07, 2016

09:15 **Summer Student Lecture Programme Course** Standard Model (3/4) **Main Auditorium**
10:20 **Summer Student Lecture Programme Course** Introduction to Accelerator Physics (4/5) **Main Auditorium**
11:25 **Summer Student Lecture Programme Course** Detectors (4/5) **Main Auditorium**

FRIDAY JULY 08, 2016

09:15 **Summer Student Lecture Programme Course** Standard Model (4/4) **Main Auditorium**
10:20 **Summer Student Lecture Programme Course** Introduction to Accelerator Physics (5/5) **Main Auditorium**
11:25 **Summer Student Lecture Programme Course** Detectors (5/5) **Main Auditorium**

MONDAY JULY 11, 2016

09:00 **Barcelona Techno Week** First Barcelona Techno Week: Course on semiconductor radiation detectors
09:15 **BCD PlatForm** Advanced Statistical Methods (1/2)
09:15 **Summer Student Lecture Programme Course** Electronics, DAQ, Triggers (1/3) **Main Auditorium**
10:20 **Summer Student Lecture Programme Course** Neutrino Physics (1/3) **Main Auditorium**
11:25 **Summer Student Lecture Programme Course** Flavour Physics and CP violation (1/4) **Main Auditorium**

TUESDAY JULY 12, 2016

09:15 **Summer Student Lecture Programme Course** Electronics, DAQ, Triggers (2/3) **Main Auditorium**
10:20 **Summer Student Lecture Programme Course** Neutrino Physics (2/3) **Main Auditorium**
11:00 **LHC Seminar** Search for magnetic monopoles with the MoEDAL prototype trapping detector in 8 TeV proton-proton collisions at the LHC **Main Auditorium**
11:25 **Summer Student Lecture Programme Course** Flavour Physics and CP violation (2/4) **Main Auditorium**