CERN Bulletin

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More articles at *http://home.cern/cern-people*

A NEW TARGET TO EXPLORE THE UNKNOWN

The BDF facility is under creation for dark matter and hidden sector experiments

Assembly of the target prototype before installation. (Image: Julien Ordan/CERN)

The Physics Beyond Colliders programme encompasses several new projects and experiments that aim to use CERN's infrastructure for new explorations. One of these projects, which is currently awaiting approval and is being discussed in the context of the European Strategy for Particle Physics, is a facility that will use the beams of the Super Proton Synchrotron (SPS). This facility, known as the Beam Dump Facility (BDF), is a high-intensity fixed target beam dump.

The target, located 15 metres underground, will stop the main proton beam and produce mainly charmed mesons to enable physicists to carry out research on dark matter and the hidden sector. The aim is to produce very weakly interacting hypothetical particles.

The 1.5 metre thick target will be capable of absorbing all the energy of the SPS beam which should reach an average power of 355 kW. This is why the BDF set-up is more like a beam dump than a traditional target. Furthermore, the target will be very dense in order to produce heavy hadrons while also stopping lighter particles.

The BDF will be significantly more sophisticated than the existing targets and will therefore need a complex shielding and handling system.

(Continued on page 2)

A WORD FROM FRÉDÉRICK BORDRY

ADDRESSING ENERGY CHALLENGES TOGETHER

Energy is both a challenge and opportunity for research infrastructures. Not only do we need it to carry out research of the highest standard, but we also do so with the greatest respect for the environment. This is the reason that CERN, the ESS and the members of the Association of European-level Research facilities launched the workshop series Energy for Sustainable Science at Research Infrastructures, ESSRI, in 2011.

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A WORD FROM FRÉDÉRICK BORDRY

ADDRESSING ENERGY CHALLENGES TOGETHER

On 28 and 29 November, the fifth ESSRI workshop was held at PSI in Villigen. For two days, some 90 participants discussed and shared best practices in energy management, energy efficient technologies, cryogenic systems and conventional cooling. This year, we also included sustainable technology developments made by research infrastructures. An example of this is superconducting radio frequency structures, a key element for high intensity accelerators.

Since the first workshop, solutions such as analysing consumption, waste heat recovery, and increasing overall efficiency have been adopted by many of the laboratories represented at the workshop. Other solutions, such as life cycle assessment, need to be further investigated. On this subject, we were joined by professor Manuele Margni on video link from Polytechnique Montréal. This holistic approach, whereby one evaluates multiple indicators such as carbon footprint, water footprint, resources, and the impact of ecosystems by product or service, could help us make real improvements in our environmental footprint.

We are all more environmentally conscious today than we were eight years ago. The European programmes Eucard-2 and ARIES are two tangible examples of the progress that we have made. Both look at the future of accelerator-based facilities where sustainability is built-in from the start. There will be no future large-scale science project without an energy management component, an incentive for energy efficiency, and energy recovery among the major objectives.

Research infrastructures need to be part of the solution, contributing to best practice and finding solutions for the future. That is why this workshop series is so important and I look forward to the next one at ERSF in Grenoble, France, in 2021.

Frédérick Bordry
Director for Accelerators and Technology

A NEW TARGET TO EXPLORE THE UNKNOWN

The target will be surrounded by approximately 3,700 tonnes of cast iron and stainless steel shielding. The target and the shielding will be handled by robots and cooled.

How will the facility work? A proton beam produced by the SPS will be sent along the existing line through a separator that will then direct the beam towards the new target. A new junction cavern and an extraction tunnel will be built to house the new line.

The BDF project will *inter alia* feed into the Search for Hidden Particles (SHiP) project which is designed to look for extremely weakly interacting particles within the hidden sector as well as black matter particles. If the SHiP project is approved it will enter a technical design phase followed by a five-year construction phase and should produce its first data in 2028.

Last year, the BDF team tested a prototype target to gauge the feasibility of the project. The target resisted the impact of the beam and behaved as expected during the simulation. The team is now carrying out design studies. The construction of the facility will then begin.

Camille Monnin

AN ENERGY-SUSTAINABLE FUTURE FOR RESEARCH INFRASTRUCTURES

The latest ESSRI workshop brought together experts from national and international organisations to discuss management at scientific institutes

On 28 and 29 November, CERN took part in the fifth Energy for Sustainable Science at Research Infrastructures workshop at the Paul Scherrer Institute, PSI, in Villigen, Switzerland.

The Energy for Sustainable Science at Research Infrastructures workshop series was established in 2011 by CERN, the European Spallation Source, ESS, in Sweden, and the Association of European-Level Research Infrastructures Facilities, ERF. It brings delegates from research institutes together with policymakers from around the world to discuss energy sustainability. The goals of this year's workshop were to discuss energy management, efficiency, storage and savings, to pinpoint and share good practice and identify potential future technological solutions. In addition to that, the workshop stimulates new initiatives and cooperation amongst institutes.

Among the highlights was a presentation from Stefan Oberholzer, Head of Photovoltaics and Central Solar Power at the Swiss Federal Office of Energy, SFOE. He spoke about the Swiss Energy Strategy 2050, explaining that the strategy's priorities are efficiency, increasing energy from renewable sources, security of supply, and strengthening energy research. Oberholzer also discussed the opportunities and challenges with energy storage and renewable sources, such as photovoltaics. Large storage systems were also the subject of a presentation from Michel Düren, a Professor at the Justus-Liebig-Universität Gießen. He concluded that the scientific community can play a leading role in demonstrating best practice for the energy transition that we are now facing.

Among the presentations from CERN was one from Laurent Tavian, High-Luminosity Project Office Coordinator, who presented a project for energy efficient refrigeration for the Future Circular Collider (FCC). Instead of conventional cryoplants, where helium is the refrigerant, the project found that a mix of helium and neon makes a more energy efficient cooling system. Over 10 years, this could save up to 3 TWh of energy.

Amalia Ballarino, CERN's Head of Superconducting Devices, presented a project on magnesium diboride (MgB_2) based power transmission lines for powering the High-Luminosity LHC superconducting magnets. Magnesium diboride is superconducting at 39K, the highest temperature among conventional superconductors, making it interesting from an energy efficiency perspective both for accelerator applications and for potential electricity distribution systems in towns and cities.

Serge Deleval, Deputy Group Leader for cooling and ventilation at CERN, gave a talk on water consumption and its environmental impacts, a first for this workshop series. He presented recent studies on minimising the increase of water consumption and reducing the environmental impact of cooling tower effluents.

In summing up the workshop, Frédérick Bordry, CERN's Director for Accelerators and Technology, concluded very succinctly that: “Research infrastructures don't want to represent an energy issue for society. We wish to contribute to good practices and find solutions for the future.”

The next workshop on Energy for Sustainable Science will be held in 2021 in Grenoble, France.

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All the presentations from this year's workshop can be found here (https://indico.psi.ch/event/6754/timetable/?view=standard_inline_minutes).

Ebba Jakobsson

HR SURVEYS: A RICH YEAR FOR FEEDBACK, TIME FOR ACTION!

Our two surveys – of CERN fellows and of CERN staff – received a high response rate. Recordings of the presentation of the results are available

In 2019, various surveys were addressed to members of the CERN personnel in a bid to gather feedback and input on a variety of topics. CERN's HR department carried out two key surveys of fellows and staff to identify areas of strength and opportunities for improvement, and at the same time gather input for HR's priorities and the forthcoming five-yearly review. On 2 and 3 December, I presented an overview of the main results of those surveys, following an introduction on the status of key HR projects.

The input from the surveys was rich and interesting, with tangible topics to address. The fellows survey saw a response rate of 74.8% and the results were presented in September. The top five priorities emerging from this questionnaire were: more support for the next career move, enabling fellows to take more control over their time at CERN, increased attention to diversity and inclusion, more support for supervisors, and timely communications on contractual decisions. A number of concrete actions have already been taken to address these, including new dedicated training for supervisors, dedicated monthly induction sessions and CV clinics for fellows.

The Staff survey saw a response rate of 66.6%. The generosity in sharing views, experiences and suggestions was remarkable and warmly welcomed. Some 5000 comments were gathered across all themes! These serve to complement the percentage scores with tangible and useful feedback, to guide and orient HR and Management in how to follow up and what to prioritise.

Overall, both fellows and staff are highly engaged in the work they do and would recommend CERN to friends and family as a place to work. This can be measured with very high eNPS scores (employee Net Promoter Score) of +54.6 for fellows and +30 for staff, the European benchmark

being -8. Among the main reasons for satisfaction with work at CERN are the fact that we are all collaborating and contributing towards a noble mission, we are proud of the work we do and the working environment is appreciated. There is much that can be improved and addressed though, with the contract policy, MERIT, Internal Mobility and promotion criteria being key themes identified as requiring action.

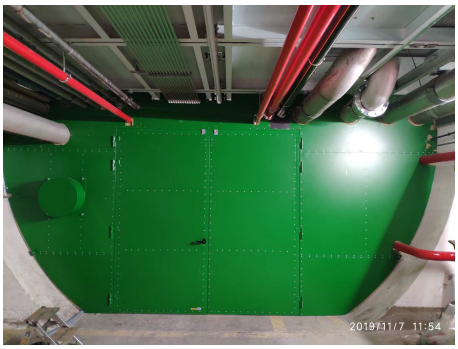
Your voices have been heard, and a third of staff members believe real changes can be made as a result of this survey. Listening to you is not enough. Our aim is to convince the other two-thirds that real changes will happen and make a difference, based on your priorities and extensive feedback.

Together, we make CERN a great place to work. We will keep fellows and staff informed on a regular basis of the progress of the action points identified. In the meantime, you can revisit the results in the presentation on Indico.

James Purvis
Head of the Human Resources Department

LS2 REPORT: NEW FIRE PROTECTION EQUIPMENT IN THE SPS

Work is in progress to modernise the fire protection system in the SPS



One of the new fire doors installed at the SPS during LS2. You can also see the sprinkler pipes (in red at the top of the image), the fire detection system (the aluminium pipes at the top) and the dry risers (in red on the right) (Image: CERN)

There's never a dull moment at the Super Proton Synchrotron (SPS) during the second long shutdown (LS2) of CERN's accelerator complex. In addition to the upgrade of its acceleration system and the installation of a new beam dump, the SPS is also being equipped with a state-of-the-art fire protection system.

A study carried out in 2015 and 2016 highlighted the fact that the fire protection equipment in the SPS, which had been in place since the accelerator was commissioned in 1976, was no longer appropriate for the current specification of the machine, nor did it comply with modern fire safety standards.

The SPS-FIRE project was launched in 2016 by the Director for Accelerators and Technology, Frédérick Bordry, and was entrusted to the BE department, working in close collaboration with the HSE unit and the EN and SMB departments. The project is being carried out during LS2 and aims to consolidate and update the fire protection equipment in the SPS. “The project focuses on four essential aspects of fire protection: detection, containment, automatic response and manual response,” explains Ronny Billen, head of the SPS-FIRE project.

A new aspirating smoke detection system has been installed in the SPS tunnel. Capable of sucking in air from up to 700 metres away, this system can detect a fire extremely quickly, as soon as the very first smoke appears. “The data gathered by these devices is processed by a centralised control system that can automatically trigger the closure of fire dampers and doors, shut down the ventilation and start an evacuation,” continues Ronny Billen. “A vocal alarm system will allow announcements to be made by loud-speaker to make it easier to evacuate personnel, which will be much more efficient than the current sirens.”

Significant work is also under way to install a containment system. Until now, the SPS tunnel wasn't split into compartments, a layout that can stop a fire from spreading. No fewer than 50 fire-resistant doors and partitions are therefore being installed during LS2, at the entrance to the SPS's six access shafts and around hazardous areas of the machine. In the event of a fire, the ventilation system will also be shut down to stop air flow and reduce the propagation of smoke.

In the long straight sections, the technical galleries and access shafts, which are all more vulnerable to the risk of fire due to the large amount of equipment present, fixed automatic water extinguisher installations, i.e. sprinklers, are being installed. “The sprinklers are very effective because they allow us to control an outbreak of fire quickly, before the Fire Brigade arrives,” emphasises Ronny Billen. The project also aims to make operations by the Fire Brigade in the tunnel easier and safer. To this end, dry risers are being installed in the six access shafts, around the entire circumference of the accelerator and in the TT10 and TT20 transfer lines. It will thus be possible to supply firefighters with water quickly wherever they are. “We have also put in place additional equipment trolleys for the Fire Brigade at the bottom of each shaft, with compressed air foam fire extinguishing systems, breathing apparatus and ventilation devices,” concludes Ronny Billen.

Anaïs Schaeffer

CRAFT THE WEB: RE-ENACT THE INVENTION OF THE WEB

A game being developed at CERN will guide participants on a unique journey

A view of CERN in "Craft the Web" (Image: CERN)

To celebrate the 30th Anniversary of the World Wide Web, CERN members and the Minetest community co-designed "Craft the Web", an open-source gaming experience that lets its players re-enact the invention of the Web. The game will primarily be meant to be played in a classroom setting, with an instructor guiding the students on their journey.

Six key developers of Minetest, an open-source game inspired by Minecraft, accepted CERN's invitation to collaborate on the project. They gathered at IdeaSquare from 5 to 8 July to work on a first version of the virtual learning platform.

During their stay, the participants got a first-hand understanding of the Laboratory's role in society and of its computing facilities. They also had the chance to interact with Ben Segal (mentor to Tim Berners-Lee, the inventor of the Web). Ben's recollections of early data challenges at CERN had a direct influence on shaping the "Craft the Web" design and experience. The developers' visit to the CERN Data Center showed them how such challenges persist in today's modern technology context.

"Craft the Web" was publicly unveiled at the Coding Science conference that took place at CERN between 22 and 24 November. The project is sponsored by the US Mission in Geneva and is still under significant development. If you are interested in participating to the project's development or evolution, contact craft.the.web@cern.ch.

EXHIBITIONS: ON THE ROAD TO ACCESSIBILITY

Audio and tactile content have already been installed to make the Microcosm exhibition and the visit itineraries accessible to all

Tactile content is now available in the Microcosm exhibition (Image: CERN)

Accessibility is making its way into CERN's exhibitions. Since the summer, audio and tactile content have been available in the Microcosm exhibition. The corridor showing the history of the universe and the exhibits on the linear accelerator, the LHC and CMS now include 3D tactile content and audio description available via a smartphone. The audio content was developed in collaboration with Céline Witschard, a specialist in information and accessibility.

The initiative arose from a workshop that was attended by scientists, design experts, content developers and members of the Swiss Association for the Blind and Visually Impaired. The aim was to find ways to adapt the existing content of the Microcosm exhibition to make it accessible to blind and visually impaired visitors. Since then, the exhibitions team has made several changes to the Microcosm exhibition as well as to some of the tour itineraries. For instance, the itinerary around the magnet test hall (SM18) now includes tactile content. Content specially designed for blind and visually impaired visitors will gradually be added to other itineraries.

"It's a small step on the road to accessibility, but an important one because it will trigger other efforts to make the exhibitions and itineraries more accessible to all visitors," explains Emma Sanders, head of the Exhibitions section of the Education, Communications and Outreach group. "This initiative has made our colleagues more aware of the importance of accessibility, which is now taken into account right from the design phase of our future exhibitions," she concludes.

Corinne Pralavorio

WOMEN SCIENTISTS INSPIRING YOUNG GIRLS

25 women working at CERN contributed to the sixth bi-annual “Expanding your Horizons (EYH) - Geneva” event at the University of Geneva

Several girls in action at the CERN stand (Image: CERN)

On 16 November, 25 women working at CERN contributed to the sixth bi-annual “Expanding your Horizons (EYH) – Geneva” event, which took place at the main building (UniMail) of the University of Geneva. The EYH Geneva organization is part of the EYH network, which is dedicated to promote gateway science, technology, engineering and mathematics (STEM) amongst young girls to spark interest in STEM activities and careers.

This free one-day event was attended by 450 girls aged between 11 and 14 years living in Geneva and the surrounding area. The girls could register for two out of twenty-five offered 75-minute workshops in different domains: biology, chemistry, computing, engineering, geology, mathematics, natural science, physics and technology. In between the workshops, the girls enjoyed the Discovery Fair, a group of stands with interactive activities and science related attractions.

A dynamic interdisciplinary group of 25 women from CERN designed and ran two of the proposed workshops and organised a sixty-square-metre stand at the Discovery Fair. The volunteers brought plenty of enthusiasm and supporting material to answer questions and stimulate the girls' curiosity.

In the first workshop, which was offered in two rooms in parallel for a total of six sessions, about sixty girls built their very own particle detector, a cloud chamber, from scratch, compared their observations with data taken with a state-of-the-art particle detector (MediPix) and discussed the Standard Model with the support of the custom-made different badges representing the particle zoo. The second workshop was created specifically for this EYH Geneva event edition: about thirty girls discovered what goes on behind the scenes of a website and were exposed to HTML, CSS and Javascript as they designed their own Particle Accelerator control panel.

At the CERN stand, the teenagers could embark on a VR (virtual reality) visit to the CERN data centre, decorate proton cookies with sweets representing up and down quarks and icing as gluons, touch and play with a Beam Position Monitor (BPM), observe the signal of cosmic muons passing through a beam loss monitor tube (BLM), control an LHC beam up to collisions using a video game developed by CERN's Beam Instrumentation group, explore CERN's particle accelerator complex through high-resolution 360°panoramic photos on two independent work stations, discover the career of many scientists who worked at CERN via the Alumni platform, and take selfies to remember the day in front of an LHC dipole and the ATLAS muon wheel. There were a total of 270 VR tours and 400 decorated cookies.

The event was a great success and CERN's contributions were, yet again, among the most appreciated by the young public. This would have not been possible without the support and help of the IR-ECO group, the MediPix team, the CERN-IT Department, the WIT steering committee, the BE-BI, the EN-ACE and the HR-TA groups, the ATLAS outreach team, and the Diversity Office.

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To learn more about the EYH Geneva visit: http://elargisteshorizons.ch and for some pictures, look at the CDS record (https://cds.cern.ch/record/2703037).

Nicoletta Garelli

BECOME A MODEL FOR THE INTERNATIONAL DAY OF WOMEN AND GIRLS IN SCIENCE

Become an ambassador for science and careers in science and inspire young people

Marta Felcini from CMS explains particle physics to students at a school in Meyrin, during the 2019 International Day of Women and Girls in Science (Image: CERN)

For the fourth year running, CERN, the University of Geneva Scienscope and the EPFL in Lausanne are working together to encourage girls to choose science during the International Day of Women and Girls in Science. From 3 to 7 February 2020, female scientists and engineers will visit schools in the region to present their jobs. They will talk about their career, some of the unknowns that science is trying to resolve and some will perform small demonstrations. The aim is to change the view that the youngest members of society have

about working in science, technology, engineering and maths, by offering them female role models. Who knows, they may inspire career choices.

The event is increasingly popular with schools, with over 150 presentations being made in 2019!
This is why we are always looking for more volunteer female scientists willing to give up a little bit of their time to visit schools.

Show your enthusiasm for working in science and sign up before 7 January 2020.

- Registration is open to all women who have a profession connected with science, technology, engineering or maths (as well as computer science, communication and education)
- One-hour presentations for 30 pupils from ages 7 to 15
- Mainly in French (95%), but English speakers can also sign up
- Flexibility to choose the time and geographical area that suit you

To sign up and to find out more, see: http://cern.ch/fds-interne

COMPUTER SECURITY: WHY THE INTERNET IS NOT CHRISTMAS

On the Internet, you must be vigilant and careful when being presented with links, posts, URLs, e-mails, webpages or attachments

Maybe this is a bit far-fetched, but have you ever thought about the differences between the Internet and Christmas? The distinction between hyperlinks and presents? The contrast between clicking and unwrapping? Basically, in one word, it is trust.

Western-style Christmas has turned into a commercialized religious festival. Presents all over the place. Wrapped boxes. We are not discussing here whether this is good or not, we're just talking about the love and affection that comes with being given a present. Because usually, the gifts presented to you come with goodwill and the goal of making you happier (apart from some nasty family members who never get it right and just want to annoy you). And in a spirit of trust, curiosity and fun, you open the wrapping in the expectation of more happiness being just around the corner.

Enter the Internet. Isn't the Internet also a bit like Christmas? Behind every strange webpage, behind every newly received e-mail and attachment, behind every new post, might lurk more pleasure. Funny cat pictures. New music videos. Lovely Instagram stories. And we curiously click our way through post after post, photo after photo, swiping left and swiping right, scrolling, scrolling and scrolling even further down. Because what we get, what we see, can be funny and interesting, enriching and satisfying. Again and again. With our curiosity as a motivator. Hence, we click and click. Unfortunately, this is where the big difference comes in. . .

While at Christmas the gifts and presents (usually) come from people you like and love, respect and trust, the Internet is not necessarily like that. Trust is the key when opening up gifts and the same is true of browsing the Internet. But the Internet is anonymous. As a famous proverb says, “On the Internet, nobody knows that you are a dog”... And how can you trust a dog, or any other stranger presenting you with an unsolicited post, link, URL, webpage, e-mail or attachment? Instead of increasing your happiness, the malicious dogs of the Internet might want to try to bring you grief and pain: infect your computer, delete your data, steal your money, make fun of your photos, compromise your digital life and that of your family. On the Internet, you must be vigilant and careful when being presented with links, posts, URLs, e-mails, webpages or attachments. The Internet is not Christmas. . .

So, continue unwrapping your gifts, tear the wrapping into pieces, open your presents innocently and with curiosity, but hold back when it comes to the digital world. STOP – THINK – DON'T CLICK next time you receive an e-mail, next time you are about to open an attachment, next time you plan to download and install software, next time you want to click on that new link. Can you trust its originator? Can you trust its provenance? Can you trust that what you believe you'll get is harmless and will make you happier? If so, go ahead. If you have a doubt, maybe just skip it this time. Or check your suspicious e-mail, attachment, link or webpage with us at Computer.Security@cern.ch.

With those words, we wish you a calm and stress-free holiday season and a happy and cyber-secure 2020. Relax and, maybe, discuss with your friends and family why Christmas is much better than the Internet. . .

Do you want to learn more about computer security incidents and issues at CERN? Follow our Monthly Report. For further information, questions or help, check our website or contact us at Computer.Security@cern.ch.

The Computer Security Team

Official communications

OFFICIAL HOLIDAYS IN 2020 AND END-OF-YEAR CLOSURE 2020/2021

(Application of Articles R II 4.38 and R II 4.39 of the Staff Regulations)

Official holidays in 2020 (in addition to the special leave during the annual closure) :

Date		Occasion
Wednesday	1 January	New Year
Friday	10 April	Good Friday
Monday	13 April	Easter Monday
Friday	1 May	1st May
Thursday	21 May	Ascension day
Monday	1 June	Whit Monday
Thursday	10 September	*Jeûne genevois*
Thursday	24 December	Christmas Eve
Friday	25 December	Christmas Day
Thursday	31 December	New Year's Eve

Annual closure of the site of the Organization during the Christmas holidays and days of special leave granted by the Director-General: The Laboratory will be closed from Saturday, 19 December 2020 to Sunday 3 January 2021 inclusive (without deduction of annual leave). The first working day in the New Year will be Monday, 4 January 2021.

VOLUNTARY INSURANCE AVAILABLE FOR STAFF MEMBERS AND FELLOWS

Two types of insurance are available, on a voluntary basis, to CERN staff members and fellows:

1. Loss of earnings insurance:

In accordance with Article R II 4.13 of the Staff Rules and Regulations, the remuneration paid by CERN to an employed member of the personnel is reduced after 12 months of sick leave (not including sick leave for professional accidents or illnesses) in a 36 month period. Remuneration is reduced to two-thirds for between 12 and 30 months of sick leave, and zero thereafter, up to and including the 36th month.

The CERN administration has recently signed a collective loss of earnings insurance contract with UNIQA to enable employed members of the personnel to protect themselves from the financial consequences of such a reduction in remuneration. This new collective contract also allows members of the personnel who were previously affiliated to UNIQA on an individual basis to do so at a special rate.

All the details about this insurance and the affiliation procedure are available in the Admin e-Guide (*https://admin-eguide.web.cern.ch/en/procedure/loss-earnings-insurance*).

2. Life Insurance:

CERN has concluded a group insurance contract with the HELVETIA Swiss Life

Insurance Company Ltd. This contract enables employed members of the personnel to take out life insurance on favourable terms.

All the details about this insurance and the affiliation procedure are available in the Admin e-Guide (*https://admin-eguide.web.cern.ch/en/procedure/life-insurance-helvetia*).

FAP department

PENSIONS PAYMENT DATES IN 2020

Tuesday 7 January
Friday 7 February
Friday 6 March
Tuesday 7 April
Thursday 7 May
Monday 8 June
Tuesday 7 July
Friday 7 August
Monday 7 September
Wednesday 7 October
Friday 6 November
Monday 7 December

CERN Pension Fund

SERVICE AVAILABILITY DURING CERN'S ANNUAL CLOSURE 2019/2020

The Service Desk will be closed during the CERN end-of-year closure. Your urgent requests will be redirected to the relevant support groups

Please note that the Service Desk will be closed during that period, however in case of urgent requests, you can call/contact (+41 22 76) 77777. Calls will be redirected to the relevant support groups.

General Services
As always, similar to the emergency and fire service (+41 22 76) 74444, the security service remains operational 7/7, 24/24h and reachable via (+41 22 76) 78878.

However, the services provided by the SMB department requiring human presence (such as CERN hotel, the car sharing service, the shuttle service, etc.) will not be operational during the end of the year closure.

Services that do not depend on a continuous human presence will remain available offering a reduced level of support during this period. In general, the response time for normal problems will be half a day (no guarantee), but in case of serious failure, the reaction time will depend on the arrangements that have been made with the supported services.

Any incidents will be documented on the CERN Service Status Board. For more information, please consult the CERN Service Portal.

Please also note that the heating on the Meyrin and Prévessin sites will be switched to a low-heat mode. This reduced level will lead to a slight drop in temperature, in order to maximise energy savings during this period of low occupancy.

Computing Services
Most of the services provided by the IT department - including WLCG production services - will remain available during the CERN annual closure. No interruptions are scheduled but in case of failure, the restoration of services cannot be guaranteed.

Problems will be dealt with on a **best-effort basis only** and the availability of specific services might be limited by the availability of other services.

Please note that:

- All network and telecom services will run as usual, field technicians will act upon failures on the infrastructure, but changes requiring human intervention will not be possible.
- Incidents will be listed on the CERN Service Status Board for Computing.
- With the exception of 24 & 25 December and 31 December & 1 January, **best-effort support** can be expected for the following services: activation of accounts, AFS, CASTOR, CDS, CERN Grid Services, CERNBox, Cloud Infrastructure, Configuration Management Service, CVMFS, Dashboard Monitoring Service, Databases, Elastic Search, E-mail, EOS, FTS, GitLab, Indico, Inspire, Java web hosting, JIRA, Linux, Linux Software Building, lxbatch, lxplus, Mattermost, Network & Telecoms, Open Data Repository, Oracle web hosting (Apex), Printing, resetting passwords, room booking system, S3, ServiceNow, Skype for Business, SVN, TWiki, Vidyo, Web Services, Windows & Windows Terminal Services and Zenodo Repository.
- The backup service will remain operational, but backups cannot be guaranteed and file restores may not be possible.
- For the CASTOR tape service, problematic tapes will be handled after the CERN annual closure.

The operator service will be available and can be reached at (+41 22 76) 75011 or by email to computer.operations@cern.ch, where urgent problems may be reported.

Potential computer security incidents must be reported to Computer.Security@cern.ch or (+41 22 76) 70500 as usual.

Please remember to shut down and power off any equipment in your office that is not required during the annual closure.

DISPLAYING POSTERS AT CERN: REMINDER OF THE GUIDELINES

Posters are an inherent part of CERN's landscape, facilitating the sharing of information around the Laboratory. Guidelines for displaying posters at CERN are available here (*https://admin-eguide.web.cern.ch/en/procedure/poster-displaying-guidelines*). Please consult them before putting up your posters.

Posters should be removed by the organisers when the event or activity in question has been concluded, and preferably no later than a week after its conclusion.

Any concerns relating to posters should be addressed to info-posterpolicy@cern.ch

CERN HEALTH INSURANCE SCHEME (CHIS) - OPENING HOURS OF UNIQA OFFICES DURING END-OF-YEAR CLOSURE

Please note that the UNIQA office at CERN (Main Building) will be closed during the two-week end-of-year closure

Please note that the UNIQA office **at CERN** (Main Building) will be closed during the two-week end-of-year closure.

During that period, **UNIQA's offices in Geneva will remain open** daily from 8 a.m. to 12.30 p.m. and from 1.30 p.m. to 5 p.m. (4 p.m. on 24 and 30 December 2019) and will be closed on 25, 31 December 2019, and 1 January 2020. During open periods you can also reach UNIQA by telephone on 022 718 63 00.

For **urgent medical assistance**, you may call UNIQA Assistance **+41 22 819 44 77, 24h/day throughout this period**. Please note that this service only provides medical advice and urgent assistance services and is not in a position to inform you on the coverage by CHIS of medical expenses.

Human Resources Department

STICK'AIR STICKER FOR MOTORISED VEHICLES IN GENEVA

From 15 January 2020, during periods of high atmospheric pollution, access to the centre of the Geneva agglomeration may be subject to temporary driving restrictions

The Swiss authorities have informed CERN that from 15 January 2020, during periods of high atmospheric pollution, access to the centre of the Geneva agglomeration may be subject to temporary driving restrictions for motorised vehicles without a Stick'AIR sticker for an authorised vehicle category.

This will apply to all motorised vehicles regardless of whether they are registered in Geneva, in another canton or country with certain exceptions such as: vehicles with handicap stickers; vehicles used for professional transport of persons; bicycles and mopeds, including electric bicycles; and consular and diplomatic vehicles. A grace period for the adoption of the Stick'AIR sticker will be granted up until 30 March 2020. Please note that the French CRIT'Air sticker (see: official communication published in Bulletin No. 7-8/2017 of 15 February 2017) is recognised in Geneva, as the requirements are identical and the numbering is equivalent.

For more information and to find out which Stick'AIR a vehicle should display, please visit the following websites: ge.ch/stick-air-circulation-differenciee and ge.ch/lc/monstickair (an English translation will be available before the end of the year).

Relations with the Host-State Service
www.cern.ch/relations
relations.secretariat@cern.ch
Tél.: 72848 / 75152

Announcements

TEMPORARY MENU AT RESTAURANT 3 DURING RENOVATION WORK

From 16 December 2019 to the end of January 2020, a temporary menu will be provided at R3.

The bar will serve a selection of snacks, salads, hot dishes and desserts. This menu will be completed by the presence of a food truck for the duration of the renovation work.

Programme de vente pendant travaux 2019-2020
Restaurant 3 - Prevessin

SELF	prix ttc
Plats	
Menu Marché	5.50 €
Menu Saison	6.50 €
Food Truck, spécialité	libre
Potage bol 2,5dl	1.40 €
Portion de féculents	2.80 €
Portion de légumes	4.30 €
Salade composée grande	6.50 €
Bol de salade mélée	0.90 €
Desserts	
Tarte maison aux fruits	2.20 €
Dessert maison	1.90 €
Verrine dessert Santé	2.30 €
Verrine dessert gourmande	2.80 €
Salade de fruits frais bol	3.20 €
Fruit à la pièce de la corbeille	0.90 €
Produits laitiers :	
Petite assiette fromage 2 choix	1.80 €
Yogourt nature	0.85 €
Yogourt arôme ou fruit	1.50 €
Yogourt Activia	1.50 €
Faisselle	1.20 €
Yogourt gourmand	2.30 €
BAR	
Panini grillé	3.90 €
Pizza	libre
Croque monsieur	libre
Quiche	libre

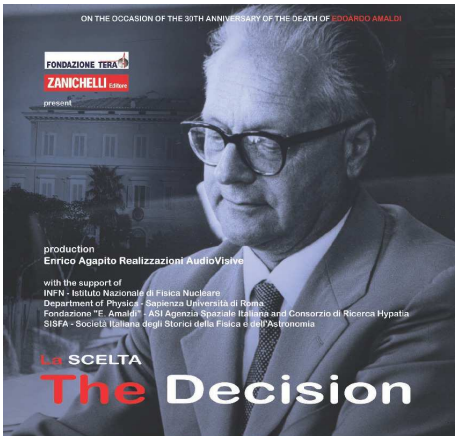
SEND A CERN E-CARD

Send colleagues, family and friends holiday greetings using the CERN e-card service

CERN account holders can send electronic greetings cards via this site (*https://ecard.web.cern.ch*).

A SPECIAL NOBEL WEEK AT CERN

Two colloquia and a historical film will be held at CERN to celebrate gravity waves, laser light and CERN's Founding Father Edoardo Amaldi, on December 10 – 12



To celebrate the Nobel week at CERN, a special programme will feature physics Nobel Laureates Barry Barish (2017, for the discovery of gravitational waves) and Gerard Mourou (2018, for the invention of ultra-powerful pulsed laser light).

- Tuesday December 10 at **4.30 p.m.** Nobel colloquium “Probing the Universe with Gravitational Waves” by Barry Barish. At **4.00 p.m.** Ugo Amaldi will give a short presentation of the book “CERN and the Higgs boson”, by James Gillies, enriched with documents on Edoardo Amaldi in an Italian translation. Find out all the details here (*https://indico.cern.ch/event/867648/*).
- Wednesday December 11 at **4.30 p.m.** Screening of the historical documentary “The decision” by Edoardo Amaldi. Find out all the details here (*https://indico.cern.ch/e/AMALDIdocumentary*).
- Thursday December 12 at **4.30 p.m.** Nobel Colloquium “Passion Extreme Light” by Gerard Mourou. Find out all the details here (*https://indico.cern.ch/event/867635/*).

All events will take place in the Main Auditorium.

2019 END-OF-YEAR CLOSURE OF CERN'S RESTAURANTS AND CAFETERIAS

Restaurant 1 will close at 4.30 p.m. on Friday, 20 December and reopen at 6.30 a.m. on Monday, 6 January 2020.

The Grab&Go will close at 5.00 p.m. on Thursday, 19 December and reopen at 7.30 a.m. on Tuesday, 7 January 2020.

Restaurant 2 will close at 4.00 p.m. on Friday, 20 December and reopen at 7.00 a.m. on Monday, 6 January 2020.

Restaurant 3 will close at 4.00 p.m. on Friday, 20 December and reopen at 7.45 a.m. on Monday, 6 January 2020.

The cafeterias on the Meyrin site (buildings 6, 13, 40, 30, 54) will close at 2.30 p.m. on Friday, 20 December and reopen at the usual times on Monday, 6 January 2020.

The cafeteria in Building 774 will close at 3.00 p.m. on Friday, 20 December and reopen at 8.00 a.m. on Monday, 6 January 2020.

Seasons greetings from all the restaurant and cafeteria teams!

REUSABLES REPLACE DISPOSABLES AT CERN

A “single-use” product is only used for an extremely short period of time. The design, manufacture and distribution involved consumes a huge amount of resources beforehand (since each product that is thrown away has to be manufactured again) as well as a significant amount of waste to deal with afterwards.

Moving towards reusables is another step in the right direction for the environment!

Following on from the elimination of plastic cups in the restaurants reusable cups will replace the single-use cups that are currently available next to the water dispensers.

The CERN stores supply some 600 000 single-use plastic cups every year! Initially, 40 000 of the reusable cups ordered for the Open Days will be provided free of charge at CERN's water dispensers. After that, these reusable cups will receive a reference number for sale in the CERN stores, replacing the disposable cups currently stocked.

Reducing plastic waste is everyone's responsibility – thank you for helping!

HOW TO SIMULATE PARTICLE TRANSPORT WITH GEANT4

CERN will host training courses on the Geant4 toolkit for the simulation of particle transport in January and March 2020

CERN will host training courses on the Geant4 toolkit for the simulation of particle transport in January and March 2020. The courses will cover diverse aspects of detector simulation for experiments in High-Energy Physics or Nuclear physics, and diverse other applications.

The course “First Steps with Geant4”, held on 21-23 January 2020, will provide an overview of the capabilities of the Geant4 simulation toolkit, and its applications in HEP detectors and beyond. Its focus will be on how to create a simple Geant4 application from scratch. Each key capability will be explained and incorporated into the application, from creating a geometry and material of the setup to selecting between the available physics options.

Seats for this course will be available exclusively to those affiliated with CERN to register via the Learning Hub until 6 December. After this date, the remaining spots will be made available to anyone else.

A second course, “Geant4 Advanced Course”, for existing Geant4 users interested to improve their understanding and usage of Geant4 will be held on 24-26 March 2020. It will cover capabilities of Geant4 relevant for creating intermediate and advanced applications in any domain, with emphasis on topics most relevant to experiments in High-Energy or Nuclear Physics. Capabilities of Geant4 related to geometry description and optimisation, propagation of tracks in electromagnetic and other fields, the simulation of optical photons and exotic particles, and the use of speedup techniques including fast simulation and event biasing will be covered.

Registration for the Advanced course is already open and will be exclusive for those affiliated with CERN, until 1 February.

The courses are mainly targeted to experimental physicists involved in High-Energy Physics or Nuclear Physics experiments. They may also be of interest to those contemplating creating or extending applications in diverse fields from medical physics (medical imaging or particle therapy), or assessing the effects of the space radiation environment on satellites.

Please do not hesitate to contact Technical Training (technical.training@cern.ch) if you have further questions.

Ombud’s corner

INTEGRITY DOESN'T COME WITH AGE

“*My colleague recruited his best friend's son as a technical student and the same friend's niece as a summer student.*” (Dmitri*, 31 years old)

“*My project leader asks me to carry out certain tasks that push me to the limits of the safety rules.*” (Felix*, 32 years old)

“*My boss stops me from sharing the benefits of my documentation work with my colleagues.*” (Ester*, 27 years old)

What do these examples have in common? Young colleagues encountering behaviour that is unacceptable and goes against the Organization's principles. They would like to be able to report their experiences, which, if proven, could lead to disciplinary action, but they fear for their careers. This is why they come to see me in strict confidence. These colleagues come from all the Member States, they may be engineers, physicists, technicians or work in administration, and they are all extremely motivated about working at CERN. But sometimes they have discovered a reality that doesn't correspond to their expectations, a reality that undermines the Organization's reputation. Thankfully these cases remain exceptions, but every example is one too many.

When the people implicated also have many years of experience at CERN, the sense of disillusion is even worse. Young people expect their elders to set an example and the hierarchy to intervene when they become aware of the facts.

I see that many colleagues at CERN, particularly the younger generation, have high expectations when it comes to ethics. They don't accept behaviour that, in the past, might sometimes have been tolerated. Many young colleagues are critical; they don't accept the status quo, and their sense of responsibility compels them to come to me for advice on how to respond. New arrivals certainly have less experience of CERN, but they bring a new perspective and often have a strong sense of ethics and honesty. Young people are our successors, they are the future. Understanding their expectations gives us a new opportunity to reflect on how we work together.

If you witness inappropriate behaviour, first try to broach the subject with the person concerned. If you have difficulty in addressing the situation and need help, contact one of CERN's support services.

**Names have been changed*

Pierre Gildemyn

If you'd like to comment on any of my articles or suggest a topic that I could write about, please don't hesitate to e-mail me at Ombuds@cern.ch.