CERN Bulletin

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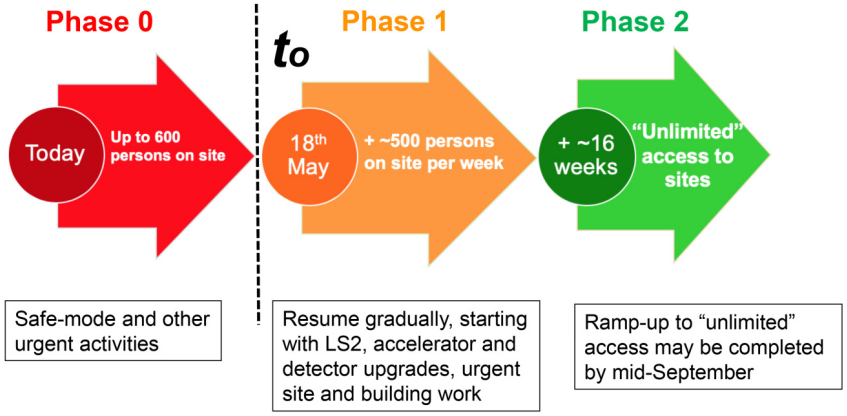
A GRADUAL AND SAFE RESTART PLAN FOR CERN'S ON-SITE ACTIVITIES

The CERN Management presented its plan to resume on-site activities during a special online meeting with the CERN community



(Image: CERN)

The CERN Director-General and Directorate presented the restart plan for on-site activities during an online meeting. Some 4100 people connected to the live webcast, during which 270 questions were submitted live, in addition to the 150 collected prior to the meeting.

CERN has been in safe mode since 20 March, with the majority of personnel working remotely. During this period, a maximum of about 600 people have come to CERN each day to ensure the safe maintenance of the sites and facilities. The rest of the CERN community has been making extensive use of teleworking tools, with a peak of almost 13 900 connections per day to the Vidyo remote conferencing tool.

On-site activities will resume gradually as of 18 May. "We have developed a preliminary plan for the gradual and safe restart of the activities and for bringing personnel back to work on the sites," said Fabiola Gianotti, who emphasised the importance of individual responsibility in respecting the health and safety measures as a means to protect people's heath and achieve a successful restart.

Here is a summary of the plan that was laid out yesterday, in the form of ten questions and answers.

(Continued on page 2)

In this issue

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A GRADUAL AND SAFE RESTART PLAN FOR CERN'S ON-SITE ACTIVITIES

This plan will be re-evaluated as the COVID-19 situation evolves at CERN, in our Host States and beyond.

- **What is the schedule for the restart of on-site activities?**

The planned restart is divided into three phases. During phase 0, which will run until 18 May, safe mode is being maintained, with a maximum of 600 people per day allowed on the CERN sites. During this period, teams are preparing the restart plan by scheduling the priority activities and identifying the specific people needed on site. During phase 1, starting on 18 May, priority activities will resume gradually, starting with LS2 activities, accelerator and detector upgrades and urgent site and building work. Phase 1 is estimated to last 16 weeks, with up to an additional 500 people per week allowed on the CERN sites. The final stage, Phase 2, is planned to start from mid-September and will hopefully see the removal of all restrictions on the number of people on the sites. The plan, the progression of the phases and the precise number of people on the sites will be reviewed weekly by the Enlarged Directorate.

- **Which activities will be resumed first?**

The first priority is to restart the LS2 activities, accelerator and detector upgrades and urgent site and building work. There are still some 2000 tasks in the accelerator sector to be completed in LS2, two-thirds of which relate to the LHC. A special LS2 committee meeting will be held on 8 May to determine which Phase 1 activities should be given priority. The LS2 and Run 3 schedules will be reviewed in June and, again, during a workshop in September.

- **How many people will work on the CERN sites?**

Before the safe mode began, an average of 8000 people were on site each day, including CERN personnel and contractors. During safe mode, this number was reduced to 600. As of 18 May, an additional 500 people per week will be able to access the CERN sites, including members of the personnel and contractors, starting with those working on the above-mentioned priority activities. From mid-June, the rest of the personnel is expected to gradually come back to work.

- **What is the procedure for returning to the CERN sites?**

Members of the personnel will be called back to the site by their supervisor. The request will include the days for which on-site access is granted. Presence on site will be limited to the time required to carry out approved activities. Contractors' personnel will be allowed to come on site only at the request of their management, as agreed with the CERN technical officer in charge of the contract.

People over 65 should continue to work remotely. Their access may be exceptionally authorised by department heads or experiment spokespersons for activities considered to be essential for strategic or operational reasons. People under 65 with vulnerabilities should continue to work remotely and must inform their supervisor.

All members of personnel and contractors will have to pass a compulsory COVID-19 health and safety training course in order to access the CERN sites. This course will be available as from the 12 May from the Learning Hub (*https://lms.cern.ch/ekp/servlet/ekp?TX=WIDGETCONTAINERPAGE*).

- **What are the hygiene measures in place on the CERN sites?**

CERN has developed strict health and safety measures following guidelines from our Host States, and in some cases these measures are stricter than those in place in France and Switzerland. Detailed safety and hygiene measures can be found here (*https://hse.cern/news-article/coronavirus-information-measures-and-recommendations*). Doris Forkel-Wirth, Head of the Occupational Health & Safety and Environmental Protection Unit, emphasised that it is “the responsibility of each one of us to respect hygiene and safety measures, in order to protect each other”.

In summary, everyone on site must comply with these measures:

- Respect the physical distance of two metres between individuals;
- Respect basic hygiene measures, such as washing hands regularly;
- Wear masks when indoors and when other people are present (shared workspaces) or may be encountered (public spaces). Wear masks outdoors if a physical distance of two metres cannot be respected;
- Wear additional personal protective equipment (PPE), such as face shields or safety glasses, when the physical distance of two metres cannot be maintained in the tunnel and laboratories;
- If sharing tools or workstations cannot be avoided, you will be required to clean them before and after use. Other measures may be put in place.

It is the responsibility of each person within the CERN community to read and apply carefully the safety and hygiene instructions which will be updated on the HSE webpage (*https://hse.cern/news-article/coronavirus-information-measures-and-recommendations*).

Enhanced cleaning of shared spaces, such as toilets and restaurants, will continue. Cleaning kits for offices will be distributed (for example, to clean workstations). Before resuming work in your office, you may send a ticket via the service desk to request a complete clean.

- **What other safety measures must be taken?**

The COVID-19 safety measures are in addition to the usual safety measures! Do not forget your personal protective equipment, such as your helmet, safety shoes and dosimeter if required, in addition to your mask.

- **Who will provide the personal protective equipment?**

Supervisors will distribute protective equipment and hygiene products (soap, sanitiser, cleaning materials, etc.) to their teams. On your first day back on site after lockdown, you will receive one or two masks at the entrance before you can access the safety equipment distribution point indicated by your supervisor. If pos-

sible, tools and workstations should not be shared, but increased cleaning and, if needed, additional PPE may be available for shared workstations or tools. Shared workstations and tools must be cleaned before and after use.

- **How should I commute to CERN?**

The use of individual transport such as cars and bicycles is preferable. Bikes are available at the CERN mobility centre. If you have to use public transport, keep a physical distance of two metres and wear a mask. The CERN shuttles will operate, and masks will be mandatory for anyone boarding them. If CERN cars must be used, individual use is recommended. If this is not possible, a maximum of two people may share a CERN car and they must wear masks. In all cases, drivers must clean any area they have touched prior to and following the use of a CERN car.

- **Will the restaurants be open?**

Distribution points for food will be organised in the restaurants and cafeterias, with a limited number of people allowed in the distribution zone. It will be possible to book meals in advance and to pay remotely via a dedicated app. The number of distribution points will be adapted to the number of people on site.

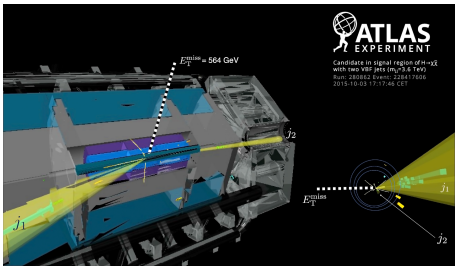
- **Are meetings and travel allowed?**

Meetings must be held remotely, using video conferencing tools. If this is not possible, safety measures must be respected (distance of two metres between people, wearing of masks, etc.) and the identity of the participants must be recorded by the organiser. All duty travel on behalf of CERN remains suspended. Exceptional duty travel may be authorised by the relevant head of department if it is considered to be essential.

The slides and recording of the information meeting are available on the Indico page (*https://indico.cern.ch/event/912581/*).

ATLAS PROBES DARK MATTER USING THE HIGGS BOSON

The Higgs boson plays a crucial role in the search for dark matter at the Large Hadron Collider



A candidate event for a Higgs boson produced via vector-boson fusion and subsequently transforming ("decaying") into invisible particles. The experimental signature of two particle jets (yellow cones) and large missing energy (dashed line) is shown (Image: CERN)

Physicists from the ATLAS collaboration at CERN's Large Hadron Collider searched for particles of dark matter by looking for transformation of the Higgs boson into particles that cannot be directly detected by the ATLAS experiment ("invisible particles"). Presence of such particles in the collision debris would create an energy imbalance with visible particles, which can be measured. The scientists sifted through the full dataset from Run 2 of the LHC (2015–2018), around ten million billion (10^{16}) proton–proton collisions, seeking events in which a Higgs boson was produced via a specific, well-identifiable process (known as vector-boson fusion) and then transformed into undetected particles.

The data show no excess of such characteristic events over the expected background. ATLAS concluded at a 95% confidence level that no more than 13% of Higgs bosons produced in the LHC could transform into invisible particles. These findings place the strongest limits so far on Higgs transformations to such invisible particles.

Dark matter, which makes up around 85% of the mass of the universe, has only been observed indirectly, through gravitational effects. No particles of this substance have been observed in a laboratory. Further, even if they are produced in collisions at the LHC, physicists expect that dark-matter particles would escape interaction with the gigantic detectors located at the collision points (be "invisible" to the detector), resulting in "missing energy" in the collision debris.

However, dark matter has mass, and considering the Higgs boson's relation to mass, physicists have suggested that dark-matter particles could interact with the Higgs boson: a Higgs boson could transform (or "decay") into dark-matter particles shortly after being produced in the LHC's collisions. Collision events in which a Higgs is produced through vector-boson fusion contain additional conical jets of particles directed towards the forward regions of ATLAS, close to the LHC beam pipe. The missing energy resulting from the individual particles would, on the other hand, be aligned towards the vertical plane perpendicular to the beam pipe. Combining these two characteristics gives scientists a unique signature in the quest for dark matter.

Although no excess was observed, the search provided important constraints on low-mass dark matter, which complement direct searches for dark matter performed at other facilities. It was also an important demonstration of the novel techniques that scientists are applying in research at the LHC. The Higgs boson, discovered in 2012, has quickly evolved into an invaluable means of searching for signs of physics beyond the Standard Model of particle physics.

- More details about the research on the ATLAS website (*https://atlas.cern/updates/physics-briefing/probing-dark-matter-higgs-boson*)
- Video of the LHC seminar where the results were presented (*https://cds.cern.ch/record/2715786?ln=en*)
- The ATLAS paper (*https://atlas.web.cern.ch/Atlas/GROUPS/PHYSICS/CONFNOTES/ATLAS-CONF-2020-008/*)

MORE OPEN ACCESS FOR CERN AUTHORS WITH A NEW AGREEMENT

CERN's open-access (OA) share in scientific information gains more ground this year as the Organization signed a notable 'publish and read' agreement with IOP Publishing

In practice, this means that all research articles by corresponding authors with a primary or secondary affiliation to CERN, including articles from any experimental collaboration hosted by CERN, can now be published immediately in IOPP journals with no barriers and no article publication charges (APCs), under the Creative Commons Attribution License (CC BY). Moreover, the CERN community now has access to all the content in all 121 IOP Journals like the Journal of Physics G: Nuclear and Particle Physics or the Journal of Instrumentation, including the oldest articles.

"The research community at CERN has been at the forefront of developments in scholarly communication – even dating prior to the founding of the world-wide web – reflecting our belief that openness is imperative to the progress of science," said Alex Kohls, Group Leader Scientific Information Service at CERN. "Since 2014, the SCOAP3 initiative has established immediate open access to published articles as the standard in particle physics, but CERN authors publish also non-HEP content. Therefore, our agreement with IOP Publishing represents another important milestone in our open-access strategy."

Among the roughly 1000 CERN articles published per year in journals, 60% are covered by SCOAP3 and 30% are OA in some other way. The IOPP agreement increases this share and mainly simplifies the publishing process for the authors and grants reading access to considerable resources of scientific knowledge. IOPP also publishes the CERN Courier, CERN's magazine dedicated to the international high-energy physics community.

CERN's Scientific Information Service needs to be informed before submissions of articles from CERN-affiliated collaborations or from CERN authors whose corresponding author is not affiliated with CERN, and which are also covered by this agreement.

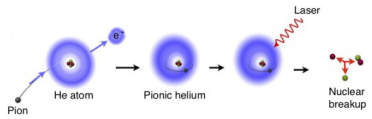
Send your inquiries to open-access-questions@cern.ch.

More practical details can be found here. (*https://publishingsupport.iopscience.iop.org/questions/cern/*)

Cristina Agrigoroae

ASACUSA RESEARCHERS CREATE AND STUDY NEW EXOTIC ATOM AT PSI

Further studies could be used to test the Standard Model of particle physics



Small, Medium, Large, Original A pion replaces one of the two electrons in a normal helium atom to form pionic helium (Image: CERN)

A team of researchers from the ASACUSA collaboration have taken experimental equipment from CERN to the Paul Scherrer Institut (PSI) near Zurich to create a theoretically predicted but never before verified exotic atom and made first measurements of how it absorbs and resonates with light. The results, published today in the journal *Nature*, mark the first time such spectroscopic measurements have been made on an exotic atom containing a meson, a particle consisting of two fundamental particles called quarks.

Replace an electron in an atom with a heavy, negatively charged particle, and you get a so-called exotic atom. Such atoms usually have very short lifetimes, and they provide excellent tools for studying the properties of the replacement particle and to search for physics phenomena not predicted by the Standard Model.

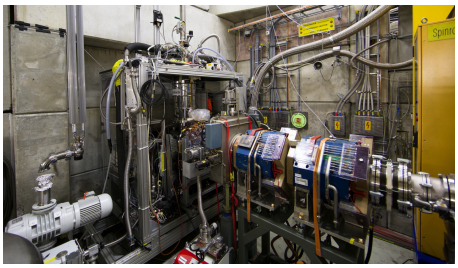
"Spectroscopic measurements of exotic atoms containing mesons could be used to determine with high precision the mass and other properties of the constituent mesons, as well as to place limits on possible new forces involving mesons," says ASACUSA co-spokesperson Masaki Hori. "For the meson used in this study, one of the lightest mesons, we might eventually be able to determine its mass with a precision of less than about one part in a hundred million. That would be 100 times more precise than has been achieved so far, and would allow a precise comparison with the Standard Model prediction to be made."

The new atom verified by the experiment consists of a nucleus from an isotope of helium (helium-4), an electron and a negatively charged pion in a high-lying energy state. Its lifetime is more than a thousand times longer than any other atom containing a pion. To make such atoms, the team took negatively charged pions provided by PSI's 590 MeV ring cyclotron facility – the world's most intense source of such pions – and focused them using a magnet into a target containing superfluid helium (superfluids are fluids that flow without any resistance). Both the target and the magnet were made at CERN and brought to PSI for this study.

Next, to confirm that the atoms had indeed been created and to study how they absorb and resonate with light, the researchers fired laser light of various frequencies at the target and searched for instances in which the pions made a quantum jump between different energy levels of their host atoms.

After some trial and error playing with different laser frequencies, the researchers were able to identify a specific jump. This jump was predicted to result in the absorption of the pion by the helium nucleus and the subsequent breaking of the latter into a proton, a neutron and a composite particle made up of a proton and a neutron. The researchers detected these fragments using an array of particle detectors that was also made at CERN and brought to PSI, thereby confirming that the pions had indeed made the jump.

Next on the researchers' agenda is to improve the precision with which the jump was identified and to search for other jumps, with the view to using them to measure the mass of the pions and test the Standard Model.



Experimental apparatus used to synthesise pionic helium atoms at the Paul Scherrer Institute (Image: M.Hori, ASACUSA Collaboration, CERN)

THE CRYOGENICS GROUP JUGGLES COLD STAND-BY, TRAINING, DOCUMENTATION AND SAFETY

For a service whose work is usually very much focused on the physical installations, telework offers a chance to rethink its activities

A truck delivering cryogenic fluid in front of point 1 during stage 3 (Image: CERN)

The Cryogenics group carries out all the tasks related to producing and maintaining very low temperatures for CERN's installations and equipment. As well as managing the cryogenic infrastructures of the LHC and its detectors, the group is responsible for the operation and maintenance of the cryogenics equipment required for the non-LHC detectors and machines, the test benches and the Research and development activities at the Cryogenics Laboratory, as well as for supplying and distributing cryogenic fluids. Stage 3 has put a stop to many of the group's activities that relate to its work on the installations.

Dimitri Delikaris, the leader of the Cryogenics group, points out that the cryogenics installations and their helium inventory are currently in safe mode. However, some equipment is being kept cold and requires special monitoring. This includes the magnet and calorimeter systems of the ATLAS and CMS detectors, the Neutrino Platform's liquid argon cryostats, the NA62 experiment's liquid krypton calorimeter and some of the equipment of the AD experiments. This requires members of the group to be present on the sites from time to time.

A limited and predetermined number of the group's members return to CERN periodically in order to carry out safety rounds, as well as to take delivery of around 80 tonnes of liquid nitrogen per week and ensure that it is correctly distributed. As well as regular patrols to check that the installations are operating as they should, “best-effort” support teams are on call and ready to spring into action in the event of an emergency. Daily virtual rounds complete the picture. “Due to LS2, many of the installations had already been shut down for maintenance, consolidation and upgrades, so the procedures and means of monitoring were already in place,” explains Dimitri Delikaris.

For the teams working on the design of future cryogenics equipment and the associated specifications, activities continue apace. For those who are in charge of operations, telework provides a chance to work on documentation that would usually be placed on the back burner due to a lack of time. Krzysztof Brodzinski, leader of the section responsible for the operation of the cryogenics systems of the LHC and its detectors, sees telework as an opportunity: “This time is being used to perfect the training and simulation tools for cryogenic processes and to train new arrivals. I'm proud of the work being done by my team, who are participating enthusiastically in the design of the new modules.”

Coordination between colleagues is made possible by effective communication. Video meetings help the team to identify cross-disciplinary tasks that will enable the gradual restart to proceed safely and keep its members in touch with each other: “The most important thing is that everyone feels involved, stimulated and motivated. Thanks to the current organisation of our work, we're getting there.” In short, the members of the Cryogenics group are not letting telework “cool” their enthusiasm.

COVID-19: KEEP YOURSELF HEALTHY BY TAKING CARE OVER WHAT YOU EAT

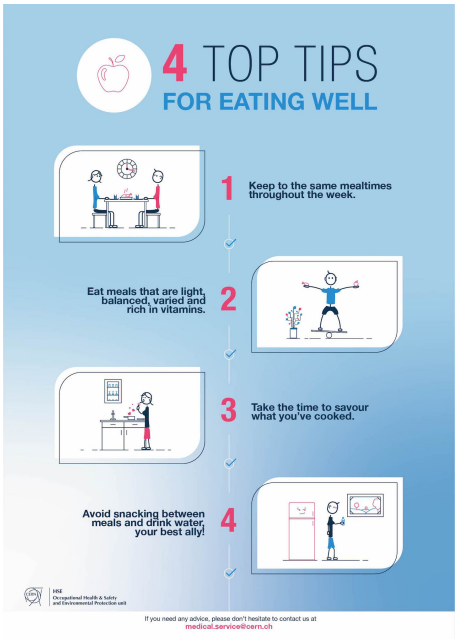
This week, the CERN Medical Service has talked to Novae's dietician to get some advice on how to eat a healthy and balanced diet during lockdown

This week, the CERN Medical Service has met Irène Rolfo, Novae's dietician. Here are her tips on how to eat a healthy and balanced diet during lockdown:

- Start your day with a healthy breakfast, such as a slice of bread with a little butter and jam, along with a plain yoghurt and a piece of fruit, or some cereal with milk and a piece of fruit. Restrict your intake of processed foods. If you're not hungry, drink some water with lemon, or a tea or coffee if that's what you usually do.
- Keep to the same mealtimes throughout the week. Eating meals that are light, balanced, varied and rich in vitamins, at regular times, keeps bodily functions regular, keeps you in good health and prevents hunger pangs. These regular moments of pleasure allow us to better manage and limit our intake of calories, which is essential when we're less physically active. If necessary, allow yourself a snack in the middle of the morning or the afternoon, but watch out for snacking on sugary and fatty foods! A small quantity of nuts (walnuts, hazelnuts, almonds) and a glass of water are your best options.
- Depending on the weather, opt for a colourful mixed salad or a seasonal soup once a day. Enhance them with pulses, eggs or dairy products. For your other main meal of the day, don't hesitate to cook a more elaborate dish, adapting the quantities to everyone's individual needs.
- Take the time to actually cook. It's an experience that not only fulfils a need but also allows us to be creative. Cooking can awaken a sense of achievement and wellbeing, feeding your spirit as well as your body. In order to maintain or build new links with others, why not exchange your ideas and recipes with your friends or colleagues?
- Make the most of this period to take the time to sit down and eat slowly, savouring each mouthful. It's a pleasant way to take care of yourself and to boost your energy levels!

If you need any advice, please don't hesitate to contact us at medical.service@cern.ch.

Don't forget to have a look at the Medical Service's eight tips to help you stay in good mental and physical health during the lockdown. And click here (https://home.cern/news/news/cern/covid-19-make-your-telework-space-more-ergonomic) for some advice on making your telework space more ergonomic, and here for the Medical Service's advice on keeping fit and doing physical activity at home. ***Don't miss the live fitness sessions provided by the Medical Service in collaboration with Activ' Santé! Go to: Activ@Work on Mondays, Wednesdays and Fridays from 6 p.m. to 6.40 p.m.***



(Image: CERN)

The Medical Service

COMPUTER SECURITY: CLICK AND INFECT

With one click, your Windows system, your Macbook or your Linux installation can be gone...

Do you recall last year's e-mails from our dear colleagues S. Abelona, R. Brant, F. Campesi, A. Daren-port-Smid and M. Dutoit, who each shared an attached file with you? Except they aren't actual colleagues. They're all fake. As were their e-mails and their attachments. They were just intended to tempt you to open the attached Word document or PDF in order to have your computer infected. . .

Indeed, this is a standard pattern of attacks against the Organization. Attackers sending fake e-mails, ideally with content very close to the operations of CERN or very close to professional or personal aspects of your life, and sufficiently real that you believe them and open the attachment. This time the subjects were “your contract amendment request”, “new IT security measures”, the “pension fund balance situation”, “your input to [their] results”, and “the confidential design report”. The more targeted these malicious e-mails are, the more likely it is that you believe they are genuine and click. The more sophisticated the attack, the more probable that your computer, PC or laptop gets compromised. With one click, your Windows system, your Macbook or your Linux installation can be gone. Infected. Compromised. Owned by

the malicious evil-doers abusing your computing resources, stealing your passwords (e.g. for CERN or for Internet banking), encrypting your documents (in order to blackmail you), sharing your photos and videos ("cyber-mobbing"), or exposing your local webcam images and microphone recordings ("I know what you did last summer").

The CERN e-mail service and the CERN Computer Security Team are doing their best to protect you. Beside the "standard" SPAM filtering, they run a dedicated e-mail appliance checking every single attachment entering the Organization and probing it to see whether it contains malware*. This is a cat-and-mouse game and, while the detection rate is very high, not all malicious e-mails can be caught, as attackers obviously try to evade our detection capabilities. This is where you come in, hopefully running an up-to-date operating system. This is easy nowadays as they should all update themselves automagically. And hopefully having deployed a good anti-virus solution. They don't cost a fortune and provide a basic second layer of defence. And using an alternative to Adobe Reader, as a lot of malware tries to exploit weaknesses in it. And being vigilant and alert. Some e-mails really are too-good-to-be-true. Sometimes it is better to STOP — THINK — DON'T CLICK. Instead, forward anything suspicious to Computer.Security@cern.ch for additional checks.

Fortunately, this time, these particular e-mails were all fake, as they were part of our annual clicking campaign. Out of about 22 000 e-mails sent by us, around 30% were confirmed as having been opened by an e-mail client. In about 20% of cases, the user made all efforts to also open the attachment and thus ultimately put their computer at risk... Thanks to approval by the Data Privacy Office, we were even able to correlate the clicking rates with anonymised personal data. However, comparing the clicking rates for different age brackets did not reveal significant differences. Also, within statistical errors, the clicking rates of female and male colleagues were the same. When comparing different employment types, i.e. physicists vs. engineers vs. technical staff vs. administrative staff, the variations were also within statistical errors. It seems that the clicking rate just depends on the curiosity of our human nature**! Finally, checking the timing, people were quick in reacting. Less than 10 minutes into our campaign, we received the first tickets notifying us that CERN was under (false) attack. That would have been the moment where we would have deployed additional protective measures (e.g. blocking the malware's access the Internet in order to download its malicious content). After about half an hour, that wave of attack would have been contained. But don't count on that. Not every e-mail is part of our annual clicking campaign.

** In technical terms, the appliance is spawning virtual machines of different operating system flavours and e-mail clients, simulating user activity in opening the potentially malicious e-mail and its attachment, and monitoring whether this attachment "detonates", i.e. starts modifying local system settings or making Internet connections ("call-backs" requesting the real malware).*

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.

*** For more details, check out this Bachelor thesis by T. Betz entitled "Comparing and Analysing the CERN E-mail Security Awareness Campaigns"."*

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The Computer Security Team

Announcements

CERN AGAINST COVID-19 SEMINAR

Members of the CERN against COVID-19 task force will present the work of the task force in an online seminar on Wednesday 20 May at 4 p.m.

Members of the CERN against COVID-19 task force will present the work of the task force in an online seminar on Wednesday 20 May at 4 p.m. from the Council Chamber. Questions may be submitted in advance, and during the seminar.

Details of the event can be found here: https://indico.cern.ch/event/916953/.

Presentations will be in English, and a simultaneous translation into French will be available.

If you have questions for the task force, please submit them to covid19.infomeeting@cern.ch.

WANT TO READ AN ARTICLE FROM HOME? USE EZPROXY!

With EzProxy, you can access the resources from anywhere as if you were at CERN

The CERN Library provides access to many electronic books, scientific journals and other online resources to the CERN community, but most of those publications are only available from CERN IPs. With EzProxy, you can access the resources from anywhere as if you were at CERN.

If you access those resources from CDS or the Library website, the URL is already configured with EzProxy.

If you access the resources from another search engine, no problem, you can convert the URL manually by adding at the beginning this string: ***https://ezproxy.cern.ch/login?url=***

We advise you to set-up a bookmarklet or a plugin on your favorite browser, so you can convert the URL in one click.

All the information is available on the Library website.

Of course, this works only on subscribed content, if you try to access an article with EzProxy, and it still doesn't work for you, it might be that we don't subscribe to this content. In this case, or if you have any question on EzProxy, please contact library.desk@cern.ch.

CERN Library

NO LOCKDOWN FOR BLOOD DONATION

Blood donation needs to continue at all times, and the various organisations responsible are adapting their approach in order to maintain this essential link in the healthcare chain

Every year, CERN organises several blood donation sessions. Due to the COVID-19 pandemic, the session scheduled for 1 April 2020 was cancelled. Nonetheless, blood donation needs to continue at all times, and the various organisations responsible are adapting their approach in order to maintain this essential link in the healthcare chain.

If you are eligible to donate blood (the criteria are given on the websites indicated below), you are encouraged to do so, even in the current circumstances. The institutions organising blood donations in France and Switzerland have taken the necessary measures to protect donors with respect to the COVID-19 risk.

People who have had a confirmed coronavirus infection during the last four weeks and those who are in close contact with patients who have had a confirmed coronavirus infection during the last two weeks are obviously not authorised to give blood at the present time.

See below for further information on how and where you can give blood.

If you live in France:
Several donation sessions will be held in the Pays de Gex in the coming weeks:

1. Wednesday, 6 May – 4.00 p.m. to 7.00 p.m. – *Salle des fêtes* in Thoiry
2. Tuesday, 19 May – 3.00 p.m. to 7.30 p.m. – Divonne-les-Bains town hall
3. Wednesday, 3 June – 4.00 p.m. to 7.30 p.m. – *Maison des Associations* in Péron

You can also go to the permanent blood donation centres in Annecy and Annemasse.

For all donations made before the end of the lockdown, appointments must be arranged in advance by calling +33 4 50 87 69 70. This applies to all donation sessions (i.e. whether at the donation centres or at one of the temporary venues).

When travelling to the donation venue, you must be in possession of the certificate of special dispensation (*"attestation de déplacement dérogatoire"*), on which box number 4 (*"Déplacements pour motif familial impérieux, pour l'assistance aux personnes vulnérables ou la garde d'enfants"* - Travel for urgent family reasons, to assist vulnerable people or for childcare purposes) must be ticked.

For more information, see the website of the French blood donation service. This website includes the dates of upcoming donation sessions and an eligibility test that you can use to determine whether you can give blood. **Steps have been taken to ensure that the appropriate measures to prevent the spread of the disease are respected** and that donors, volunteers and staff are protected.

If you live in Switzerland:
Three donation sessions will be held in the coming weeks:

1. Wednesday, 6 May – 4.00 p.m. to 7.30 p.m. – *Ecole de Vernier Place*
2. Thursday, 7 May – 3.00 p.m. to 7.30 p.m. – Satigny town hall

You can also go to the Blood Transfusion Centre at the HUG (Geneva University Hospitals):

- with an appointment booked via: dondusang-rendezvous.ch
- or without an appointment:

- on Mondays, Tuesdays, Wednesdays and Fridays between 7.30 a.m. and 3.30 p.m.
- on Thursdays between 11.00 a.m. and 7.00 p.m.
- on the first and third Saturday of each month between 8.30 a.m. and 12 noon

Public donation sessions are open to all donors. Steps have been taken to ensure that the appropriate measures to prevent the spread of the disease are re-

spected and that donors, volunteers and staff are protected.

For further information, contact the Blood Transfusion Centre on +41 (0)22 372 39 01 or visit its website, which provides a schedule of upcoming donation sessions and the compulsory medical questionnaire, which you can print prior to the session. (If you are not able to print the document, a copy will be provided at the venue.)

Don't forget: we can all save lives. Giving blood means saving a life. Thank you for your generosity.

Obituaries

PIERRE LAZEYRAS (1931 – 2020)

Pierre at his retirement party in 1996 (Image: U. Schlatter)

Pierre Lazeyras, who played leading roles in the ALEPH experiment, neutrino beams and silicon detectors during a 35-year-long career at CERN, passed away on 4 April aged 88.

Born in Limoges, France, in July 1931, Pierre graduated from the *École supérieure de physique et chimie industrielle* (ESPCI), Paris, in 1954. After working in Anatole Abragam's group at CEA Saclay, he joined CERN as a staff member in October 1961. Pierre was one of the early collaborators in the Track Chamber (TC) Division, which built the 2-metre bubble chamber and the Big European Bubble Chamber (BEBC). In parallel, he headed the team that developed one of the first superconducting bending magnets for BEBC's “beam s3”.

In CERN's early days, it was not always clear if a particle-beam apparatus would be built by the accelerator specialists or by the experiment support teams. In the TC Division, Pierre's group designed some of the beams for the bubble chambers at the PS; later, the SPS neutrino beams were also supervised by teams in the TC Division. Pierre directed the TC SPS Neutrino Beam Group from 1972, which included the construction of the horns, the 185-metre-long iron muon shielding and the beam monitoring, for which silicon-diode particle detectors were employed. After some initial teething troubles, the SPS neutrino beams operated for nearly 20 years without major problems. The silicon monitors were found to be more precise than the early gas-filled ion chambers, but calibration remained an issue. Muon counting rather than charge integration seemed an option, and this was the beginning of the era of silicon micro-strip detectors. Pierre encouraged the microelectronics developments for this new technology and its integrated readout circuits. These advances also came just in time for the UA2 experiment at the SPS and for wider applications in the LEP experiments, ALEPH in particular.

Pierre was instrumental in the formation and success of the ALEPH experiment, and was unanimously appreciated. The collaboration benefitted from his experience on large projects and his good knowledge of and connections at CERN. From the conception of the experiment in 1982 right through to the LEP2 phase in 1996, Pierre was ALEPH Technical Coordinator. For most of us coming to ALEPH from smaller experiments, the idea of a technical coordinator was quite new, but very rapidly we appreciated the role that Pierre played. From 1983 to 1989, each group in the collaboration was building a different part of the detector. Pierre made sure we were realistic in our ambitions and our estimates of the difficulties and planning constraints and, crucially, had an overview of whether each sub-detector would fit in the overall experiment. Pierre came to each sub-detector meeting and we owe it mainly to him that the various parts of ALEPH were assembled without major problems. Pierre was always available for advice even if, in his careful and reserved style, he did not try to direct or micro-manage everything. However, when asked for help he generously gave his full support.

As the person responsible for general safety in the experiment, Pierre carefully controlled these aspects, and ALEPH had no major incidents during its 11 years of operation. He was also in charge of the overall budget and certainly contributed to the fact that construction was completed within budget. After the commissioning of the experiment in 1989, Pierre's role was less day-to-day but he continued to oversee the budget for improvements and maintenance. He also played an essential role at a crucial moment for the experiment: the problem with the superconducting magnet cryostat. Pierre had always insisted that such a huge superconducting magnet and cryostat was inherently a fragile device, and had objected to the idea of warming up the magnet during annual shutdowns, citing the mechanical stress resulting from this procedure. He was absolutely right. In April 1993, there were signs of a vacuum leak, which curiously disappeared but came back in January 1994. Under Pierre's supervision, the leak was located, close to the edge of the magnet, and the cryostat then underwent “surgery” using a milling machine suspended from a crane. It was

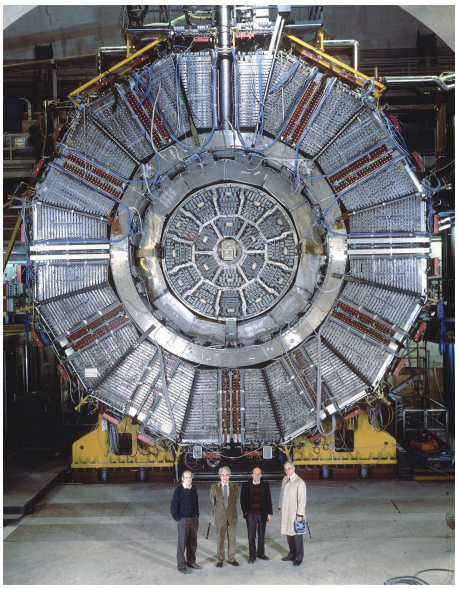
a wonderful exercise in imagination and, to the relief of all, a complete success.

Pierre was also involved in the design of the large stabilised superconductors for the LHC experiment magnets. He was therefore a natural candidate for the Magnet Advisory Group of the LHCC, on which he served into his retirement, his wisdom being highly appreciated.

He was an active member of the CERN Staff Association. When he retired in 1996, he joined the *Groupement des Anciens* and became involved in October 1997 as a representative on the CERN Health Insurance Supervisory Committee, which has since become the CHIS Board. For 14 years, until December 2011, the Committee benefited from his enlightened advice and appreciated his opinions, which were always wise and measured.

Pierre was not only highly talented and used his experience most effectively, he was also a warm person, someone on whom one could always rely. He would always tell you straight how things were and then suggest how any problems could be tackled. A typical remark by Pierre would be: “ask me to approve or reject your ideas, do not ask me what work I have for you”. We will remember him as a very dear friend and colleague.

His friends and colleagues at CERN



The famous ALEPH photo showing (left to right) Jacques Lefrançois, Jack Steinberger, Lorenzo Foa and Pierre Lazeyras (Image: CERN)