CERN Bulletin

Issue No. 24-25/2019-Wednesday 12 June 2019
More articles at *http://home.cern/cern-people*

CERN OPEN DAYS: BECOME A VOLUNTEER!

Sign-up now to engage our visitors on an exciting journey of discovery at CERN

(Image: Ewa Lopienska/CERN)

The next CERN Open Days will take place on 14 and 15 September 2019. Hundreds of activities and visit circuits are being planned to welcome some 80 000 visitors to CERN's largest public outreach event.

Your contribution is invaluable for the success of this gigantic event.

Why volunteer at the 2019 Open Days?

- Take part in a unique event organised every five years by the largest laboratory for particle physics
- Share our enthusiasm for fundamental research and its fascinating technologies
- Be a CERN ambassador by sharing your personal experiences with the visitors
- Be part of the team: meet new colleagues from other departments in a friendly atmosphere

Who can volunteer?

All CERN personnel, no matter the contract (MPEs, MPAs, Official CERN guides, ENTC, TEMC) as well as Alumni and Club members, aged 18 and over. More information can be found about registration for Alumni and Club Members (*https://espace.cern.ch/OD2019/Volunteers/SitePages/Alumni%20and%20Clubs.aspx*).

What will I get?

All volunteers will receive exclusive Open Days 2019 volunteer kits as well as a lunch voucher.

(Continued on page 2)

A WORD FROM ALBERTO DI MEGLIO

ACCELERATING INNOVATION IN COMPUTING TECHNOLOGIES

Last week, CERN openlab published its latest annual report, outlining progress made in 2018 on 17 joint R&D projects carried out between CERN and leading ICT companies. CERN openlab is a unique public-private partnership. It was founded by CERN in 2001 to provide a way to collaborate with leading technology companies to tackle tomorrow's ICT challenges. Together, we are able to accelerate the development of cutting-edge computing technologies to the benefit of research in particle physics and beyond.

(Continued on page 2)

In this issue

Published by:
CERN-1211 Geneva 23, Switzerland writing-team@cern.ch
Printed by: CERN Printshop

CERN-ISSN: **Printed version:** 2011-950X
Electronic Version: 2077-9518

A WORD FROM ALBERTO DI MEGLIO

ACCELERATING INNOVATION IN COMPUTING TECHNOLOGIES

CERN openlab runs in successive three-year phases, making it possible for both CERN and the companies to take stock at regular intervals. 2018 marked the start of CERN openlab's sixth such phase, with work beginning on a series of new projects. These address key ICT challenges faced by our research community, as identified through an in-depth consultation process with experiments and teams across the laboratory. Today's projects are tackling challenges in three main areas: data-centre technologies and infrastructures, computing performance and software, and machine learning and data analytics.

Collaboration with industry through CERN openlab makes it possible for members of CERN's research community to assess the merits of new technologies in their early stages of development, to gain insight into planned developments by leading companies in the field, and to help shape the evolution of new technologies. The collaboration is also of great value to the companies, enabling them to test their latest technologies in CERN's uniquely challenging environment. In 2018, Oracle became the second company, after Intel, to have spent over 15 years collaborating with CERN through CERN openlab. The continuing appeal of this collaboration is also shown by new companies signing up. In 2018, Micron Technology, E4 Computer Engineering, IBM, and Google all joined.

CERN openlab is now exploring a range of emerging, disruptive technologies that offer the potential to change fundamentally ICT processes at CERN and beyond. For example, in 2018 CERN openlab began investigation of technologies related to quantum computing. Initial investigations have already been launched with IBM and Google in this area. While quantum-computing technologies are still at an early stage of development, they hold significant potential, and CERN openlab is ideally positioned to help drive innovation in this area forward.

Of course, quantum computing is just one of many avenues being explored as a way to address future ICT challenges, both at CERN and beyond. In 2019, we will investigate a number of emerging technologies that have the potential to disrupt key computing models used by the high-energy physics (HEP) community. Members of CERN openlab's management team are continuing to work very closely with representatives of experiments and departments across CERN to ensure we continue to address the latest, evolving ICT challenges faced by the laboratory's research community.

We're always on the lookout for new ways in which to support CERN's research community. Visit our website (*https://openlab.cern/*), dip into the annual report or feel free to contact us (*https://openlab.cern/contact-us*) to find out more about our work, including our popular summer-student programme training the ICT specialists of tomorrow.

Alberto Di Meglio
Head of CERN openlab

CERN OPEN DAYS: BECOME A VOLUNTEER!

General and role-specific training sessions will also be organised. find out more about statuses and conditions (*https://espace.cern.ch/OD2019/Volunteers/Lists/Statuses%20and%20conditionss/English.aspx*).

What will I do?

Activities are aplenty: be a guide, a special-activity entertainer, an info agent, a crowd marshal, a shop assistant, etc. learn more about roles and trainings (*https://espace.cern.ch/OD2019/Volunteers/Lists/Roles%20and%20trainings/English.aspx*).

When and how to register?

Find all information and instructions to register on *http://cern.ch/od2019/volunteers*.

LS2 REPORT: NEW COMPONENTS INSTALLED IN THE PS BOOSTER

New injection and acceleration equipment is being installed in the PS Booster, which is in the midst of a major overhaul

The new charge-exchange injection system will receive negative hydrogen ions from Linac4 and strip them of their two electrons, before sending them off to the Booster's four rings (Image: CERN)

The shiny blue and yellow structure looks rather like a giant game of Connect Four. In fact, it is the newly installed PS Booster injection system, which will receive negative hydrogen ions from Linac4 and strip them of their two electrons, before sending them off to the Booster's four rings. The insertion of this key component of the new accelerator marks the completion of an important stage of the work being carried out on the 215 metres of beam lines that make up the PS Booster complex.

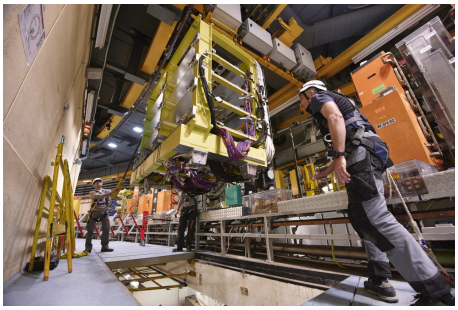
The PS Booster will be completely overhauled during Long Shutdown 2 (LS2). Many components, notably numerous magnets and the radiofrequency acceleration system, have been dismantled and extracted, and the teams are preparing for the arrival of their replacements. Surveyors are marking out the locations of the components of the injection and extraction lines on the ground with great precision, while teams install the service networks (electrical cables, cooling and ventilation ducts).

The new acceleration system, which is based on Finemet technology and was developed in collaboration with KEK in Japan, is being installed. The first of the three structures that will house the radiofrequency cavities was inserted into the Booster on Thursday, 6 June and, since then, the teams have been busy fitting it with all its equipment.

Each structure contains eight cavities and 48 power amplifiers and is assembled entirely on the surface, before being emptied of its components, ready to be transported. “Each structure weighs 1.5 tonnes, rising to almost 5 tonnes with the cavities and the amplifiers. That's why we have to dismantle them, transport them and then reassemble them in the accelerator,” explains Matthias Haase, who is coordinating the installation of the cavities.

His computer screen shows information pertaining to the roughly 1500 connecting cables that he has patiently inventoried, numbered and mapped. These plans will enable the cable fitters to connect the RF structures to the power supply and to the control room, using power and signal cables. It's painstaking work, involving specific constraints relating to the sensitivity of the radiofrequency signals. The cables that transmit the commands to the cavities must be exactly the same length for all three structures, or else the three sets of cavities will not be in sync. “A few centimetres make all the difference,” says Matthias Haase.

The cavity installation will continue until October, when testing will start, and the commissioning of the new acceleration system will begin in November.

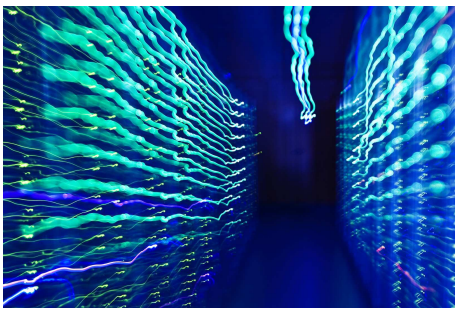


The first of the three structures that will house the new radiofrequency cavities was inserted into the PS Booster on 6 June 2019 (Image: Julien Ordan/CERN)

Corinne Pralavorio

MICROSOFT ALTERNATIVES PROJECT (MALT)

Taking back control using open software



(Image: CERN)

The Microsoft Alternatives project (MAlt) started a year ago to mitigate anticipated software license fee increases. MAlt's objective is to put us back in control using open software. It is now time to present more widely this project and to explain how it will shape our computing environment.

Background

Over the years, CERN's activities and services have increasingly relied on commercial software and solutions to deliver core functionalities, often leveraged by advantageous financial conditions based on the recognition of CERN's status as an academic, non-profit or research institute. Once installed, well-spread and heavily used, the leverage used to attract CERN service managers to the commercial solutions tends to disappear and be replaced

by licensing schemes and business models tuned for the private sector.

Given the collaborative nature of CERN and its wide community, a high number of licenses are required to deliver services to everyone, and when traditional business models on a per-user basis are applied, the costs per product can be huge and become unaffordable in the long term.

A prime example is that CERN has enjoyed special conditions for the use of Microsoft products for the last 20 years, by virtue of its status as an “academic institution”. However, recently, the company has decided to revoke CERN's academic status, a measure that took effect at the end of the previous contract in March 2019, replaced by a new contract based on user numbers, increasing the license costs by more than a factor of ten. Although CERN has negotiated a ramp-up profile over ten years to give the necessary time to adapt, such costs are not sustainable.

Anticipating this situation, the IT department created the Microsoft Alternatives project, MAlt, a year ago.

MAlt's objective

The initial objective was to investigate the migration from commercial software products (Microsoft and others) to open-source solutions, so as to minimise CERN's exposure to the risks of unsustainable commercial conditions. By doing so, the laboratory is playing a pioneering role among public research institutions, most of whom have recently been faced with the same dilemma.

MAlt is a multi-year effort and it will now enter a new phase with the first migrations.

The project's principles of engagement are to:

- Deliver the same service to every category of CERN personnel
- Avoid vendor lock-in to decrease risk and dependency
- Keep hands on the data
- Address the common use-cases

Coming in 2019

The first major change coming is a pilot mail Service for the IT department and volunteers this summer, followed by the start of CERN-wide migration. In parallel, some Skype for Business clients and analogue phones will migrate to a softphone telephony pilot.

Many other products and services are being worked on: evaluations of alternative solutions for various software packages used for IT core services, prototypes and pilots will emerge along the course of the next few years.

How will MAlt impact you and how to contribute?

You will find all the details and progress on the project site (*http://cern.ch/malt*) and more particularly the list of products addressed in the project (*https://cern.ch/malt/blog/MAlt-Services-Table/*).

The new computing newsletter blog (*https://home.cern/news/announcement/computing/new-blog-get-updates-your-computing-environment*) will communicate on general items, and in addition, **a general presentation will be provided in the Main Auditorium on 10 September at 2.30 p.m.**

Needless to say, isolated initiatives will waste effort and resources. Instead, if you or your team are willing to participate, if you have ideas, the best way is to join the coordinated Microsoft Alternatives effort by checking the project site (*http://cern.ch/malt*) and contributing to the discussion channel (*https://mattermost.web.cern.ch/it-dep/channels/malt*).

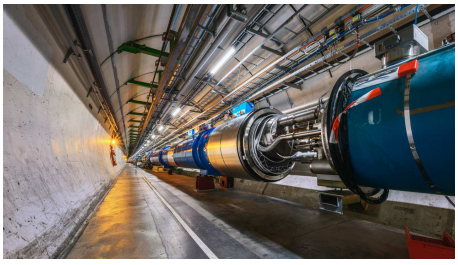
Interesting times ahead! While the Microsoft Alternatives project is ambitious, it's also a unique opportunity for CERN to demonstrate that building core services can be done without vendor and data lock-in, that the next generation of services can be tailored to the community's needs and finally that CERN can inspire its partners by collaborating around a new range of products.

Follow the project, get details, join: cern.ch/malt

Emmanuel Ormancey

THE WALTZ OF THE LHC MAGNETS HAS BEGUN

Ten new magnets are already being connected



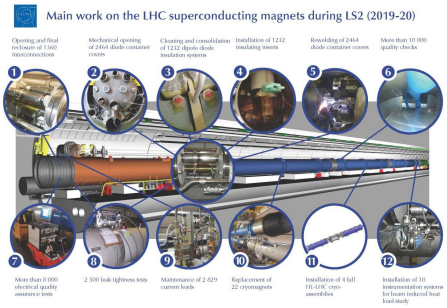
In the LHC tunnel during LS2 (Image: CERN)

Major endeavours have got under way way in the Large Hadron Collider (LHC) over the past few weeks, with the extraction of magnets from the accelerator tunnel. The LHC has a total of 1232 dipoles, magnets which bend the particles' trajectories, and 474 quadrupoles, which squeeze the bunches. All these magnets are superconducting, i.e. they operate at a temperature of -271 °C, are 15 metres long and weigh up to 28 tonnes. So moving them around is no trivial matter.

During the second long shutdown, 22 of these large components (including 19 dipoles) have to be replaced, especially as several have been showing operating deficiencies. Twelve have already been brought above ground and the last one is scheduled to be dismantled at the beginning of July.

The replacement magnets are arriving one by one. Ten new magnets have been installed, aligned and are being connected in the first sectors of the accelerator (sectors 8-1 and 1-2). This involves reconnecting the beam-pipes, the superconducting cables that transport currents of up to 13 000 amps, the transfer lines for the helium

that cools the magnets, the beam shields that thermally insulate the magnets once they have been cooled down to -271 °C. Care needs to be taken to ensure the tightness of the insulating vacuum, and tests then are carried to check that the new magnets are perfectly interconnected with the neighbouring magnets. These operations take several weeks for each magnet! All 22 magnets should thus be connected at the beginning of 2020.



(Image: CERN)

Anaïs Schaeffer

CERN ALUMNI: TWO YEARS OF CREATING LINKS

(Image: Laure Esteveny/CERN)

Some of you might have noticed the huge CERN alumni map decorating Restaurant 1, which has been installed to celebrate CERN Alumni Day and the second anniversary of the launch of the network. Over the past week, the Office of Alumni Relations has been busy indicating where our large community of alumni are located across the globe and pinning their well-wishes on the board.

In two years, the network has now grown to more than 4500 members spanning all parts of the world, as is evident from the messages displayed on the CERN Alumni map. For instance, one alumnus, **Gottfried Kellner**, former group leader in the ECP department, writes, “Greetings from Ua Pou, part of the Marquesas Islands in the Pacific Ocean. I am on a long trip across the world, but I always follow the CERN Alumni news and tell people about CERN and the research done there. I am surprised that many have at least heard about CERN, even if they do not quite know what we do. I try to give them a better idea.”

Multiple messages have been sent to us by alumni remembering their experience with pride and a hint of nostalgia for what they gained from working at CERN. This is the case for alumnus **Pedro Silva**, former TTS fellow in TE-VSC, who writes, “It is with great pleasure that I take part in this community. It all started in 2012 when the TTS programme was launched at CERN, now known as the Technician Training Experience. I applied for this great opportunity and had the chance to be one of the first five candidates chosen for the programme. I spent three extraordinary years at CERN, gained outstanding professional experience and many friends made for life.”

Many CERN alumni go on to set-up their own start-ups or companies, often with great success.“Best wishes from Guyancourt (1st office) as well as from Valenciennes (2nd office) and of course Stręgoborzyce (my family home). Let's grow and grow and show where we are after our experience with CERN,” writes **Wojciech Jasonek**, Mechanical CAD Engineer, former technical student in EN-STI.

One of the network's objectives is to help early-career physicists to move out of academia if they choose to do so. **Matin Durrani**, editor of Physics World sent the following message: “It's great that CERN values the network of physicists past and present who've passed through or been based at the lab! The network has already led to some very useful contacts for me.”

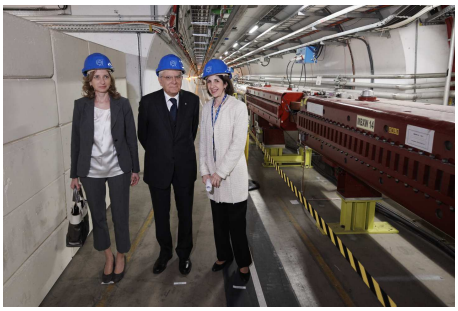
Indeed, since the launch of the network, more than 300 job opportunities, posted by alumni or companies aware of the skills and profiles developed at CERN, have been published on the alumni.cern platform and several members have been successful in finding employment through the network. Furthermore, the CERN Alumni Network continues to unite people from all over the world, with a common interest in STEM, a message clearly communicated to us via our members. “May the network expand and the members prosper, carrying the message of research at CERN and uniting the world,” writes **Anna Vayaki**, retired experimental particle physicist, now based in Athens. **Jon Kapustinsky** from Santa Fe, New Mexico and former user of the CMS collaboration, states, “My first experiment at CERN was in 1983. CERN was, and continues to be, the paradigm of human achievement, with arms open to the entire world.”

Anyone who has been (or still is) a user, associate, fellow, staff or student at CERN, is eligible to join the network via alumni.cern (*https://alumni.cern/*).

“I dreamt about a better future here and felt like I was doing something meaningful for humanity.”
– Antonio Intini,
Summer student for the LHCb collaboration (2004)

PRESIDENT OF THE REPUBLIC OF ITALY VISITS CERN

The President of the Republic of Italy visited CERN on 10 June



Sergio Mattarella, the President of the Republic of Italy, with his daughter Laura Mattarella and CERN Director-General, Fabiola Gianotti (Image: CERN)

On 10 June, CERN was honoured to receive Sergio Mattarella, the President of the Republic of Italy. The President and his official delegation were greeted at LHC Point 1 by CERN Director-General, Fabiola Gianotti, the Director for Accelerators and Technology, Frédérick Bordry, the Director for Finance and Human Resources, Martin Steinacher, the Director for International Relations, Charlotte Warakaulle, the Head of Member State Relations, Pippa Wells, the Engineering Department Head, Roberto Losito, and by the Italian spokespersons of international collaborations at CERN.

The Director-General was also flanked by the Nobel Prize-winner and former Director-General, Carlo Rubbia, as well as by eminent Italian physicists Ugo Amaldi, Antonino Zichichi and Umberto Dosselli.

The President of the Republic of Italy visited the LHC tunnel, the ATLAS experiment cavern, and the *Universe of Particles* exhibition, as well as meeting representatives of the Italian community at CERN.

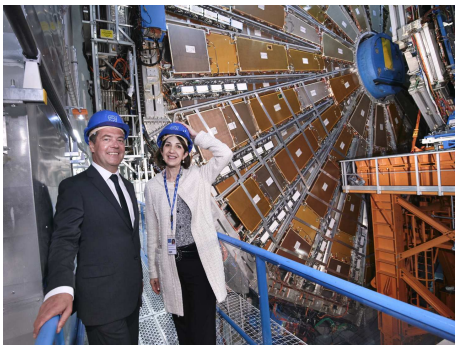
Italy is one of CERN's original founding States and its institutes and scientists have contributed to all the Laboratory's scientific exploits down the years. Italian industry was responsible for building many parts of the LHC, including a number of its superconducting magnets, and made important contributions especially in the fields of civil, electrical and mechanical engineering, vacuum technology and cryogenics. CERN currently has more than 1500 users from Italian institutes and more than 500 Italian members of the personnel.

The President of the Republic of Italy met representatives of the Italian community at CERN, in particular, Ugo Amaldi, Antonino Zichichi and Carlo Rubbia (first row from left to right) (Image: CERN)

Anaïs Schaeffer

RUSSIAN PRIME MINISTER COMES TO CERN

The Prime Minister of the Russian Federation visited CERN on 10 June



The Prime Minister of the Russian Federation, Dmitry Anatolyevich Medvedev, with CERN Director-General, Fabiola Gianotti (Image: CERN)

On 10 June, CERN was honoured to receive the Prime Minister of the Russian Federation, Dmitry Anatolyevich Medvedev. The Russian Prime Minister was greeted at LHC Point 1 by CERN Director-General, Fabiola Gianotti, the Director for Research and Computing, Eckhard Elsen, the Director for International Relations, Charlotte Warakaulle, the Head of Associate Member and Non-Member State Relations, Emmanuel Tsesmelis, and the Senior Advisors for relations with Russia, Christoph Schäfer and Tadeusz Kurtyka.

After hearing a general introduction to CERN's activities, the Prime Minister of the Russian Federation visited the ATLAS cavern and the LHC tunnel and then took part in a round-table discussion with representatives of the Russian community at CERN in the Globe of Science and Innovation.

Russia has a long history of cooperation with CERN, having signed its first collaboration agreement in 1967, and is currently an Observer State with special rights. CERN has currently more than 1000 scientific users from Russian universities and institutes. Universities and institutes from Russia, as well as from JINR/Dubna, have contributed significantly to the LHC accelerator, to the four large LHC experiments, and to the computing infrastructure. Discussions on possible high-tech contributions by Russia and JINR/Dubna to the high-luminosity upgrade of the LHC (HL-LHC) are in progress. Russian universities and institutes are also contributing to further accelerator projects and R&D and to smaller experiments at CERN.

Anaïs Schaeffer

BECOME A RECYCLING CHAMPION!

It only takes a few seconds' thought to improve waste sorting and repurposing.

(Image: CERN)

What should you do with your used coffee capsules, your spent batteries or your broken chair? Any idea? If you don't already know, you can find the answers on the posters and screens in the restaurants and cafeterias. The winners of the quiz will be revealed next week.

Most materials can be repurposed, providing that they've been correctly sorted. In 2018, CERN produced no fewer than 5300 tonnes of waste, more than 55% of which was recycled. CERN's waste is sent to sorting plants in Switzerland and France, where it goes through a second, more thorough, sorting process. Each different type of waste is then sent to the appropriate recycling facility. Paper and cardboard are recycled into new paper; used wood can, for example, be recycled into chipboard; scrap metal goes to steelworks; and certain types of polystyrene can be recycled into insulation panels.

We can all help improve waste repurposing by sorting better at source. So, take a few seconds to think. **Numerous waste containers, skips and bins for recyclable materials are available on the CERN sites.**

For example:

- Every office has a paper/cardboard recycling box.
- Recycling bins for PET items, aluminium cans and Nespresso capsules are available all across CERN. Several bins for these kinds of waste have also been installed near Building 156 (Meyrin site) and Building 904 (Prévessin site).
- Bottle banks are available all across the Meyrin and Prévessin sites. In the restaurants, glass bottles are sorted in the kitchens, so they should be left on your tray.
- For bulkier items, skips ranging from 4 to 40 m^3 are available.

All information relating to waste management can be found on the SMB department's website (*http://smb-dep.web.cern.ch/en/Introduction-Waste*).
Take a moment to fill in the survey on waste sorting and recycling (*https://surveys.web.cern.ch/form/smb-waste-campaign*).

Last but not least, think of recycling as the final step. To decrease our environmental impact, we first need to **reduce, then reuse, if possible, and, last of all, recycle**.

COMPUTER SECURITY: SOFTWARE BUGS: WHAT IF?

Do you know what drugs and proprietary software have in common? You bear the consequences if the product you buy is of mediocre quality

Do you know what drugs and proprietary software have in common? You bear the consequences if the product you buy is of mediocre quality. There is no possible recourse. Your investment is lost. The big difference is that buying software is legal. Still, there is no chance that you can hand back software that is buggy, return it to the software manufacturer and ask for it to be fixed (OK, you can ask, but...) or press for financial compensation. Instead, you as an individual, or we as an organisation, have to invest additional money in protecting our software stack and its inherent bugs against abuse... So, how can we create an efficient incentive to improve software quality? Legally enforced Bug Bounty Premiums.

While many big software manufacturers already employ so-called secure software development lifecycles to improve their products, many others just come full of bugs in order to be first on the market. The user is the beta tester. Security comes... later. There is just no incentive to guarantee that at least the obvious blunders are corrected. Very frequently, in particular for devices on the Internet-of-Things, the software stack (operating system, network interface, web server, user interface) is just a hack, as the producing companies have no good knowledge of software design and security. Their business is the device itself: thermometers, cameras, you name it. And they just make them "intelligent" by connecting them to the Internet. The same is true for smaller software development companies, they have a great idea to market, but neither the personnel nor the time to ensure a secure design and a software product with as few bugs as possible. Others just don't care (enough). There is just no incentive to invest in security, except for one: reputation. And looking at the past record of published software blunders in the media, rarely does a company goes bust due to a security bug*. So, why care?

How to create an incentive for more secure software? Legally enforced Bug Bounty Premiums! A "Bug Bounty" programme today is a voluntary commitment by a company to pay you a certain amount of money if you report a software bug found in its products. Google runs one. Microsoft does. CERN does too (but, as we are taxpayer funded, we can hand out only t-shirts as a reward). Unfortunately, many other software developers don't. And this is where legally enforced Bug Bounty Premiums would help. National governments, the European Union, or ideally a

global organisation, should come up with a defined “price list” for bugs, and legally enforce any software manufacturer to pay that money to the first person that finds one. The infrastructure for recording bugs and keeping track of fixes has already been in place for a while: CVEs (“Common Vulnerabilities and Exposures”). A cross-site scripting bug gets you, say, $100; SQL injection, $200; command line injection, $1000; a root exploit, $10 000; etc. And, by law, software manufacturers would be forced to pay that sum to the first finder.

So here come the incentives: either they pay the Bug Bounty Premium, or they invest in better software development processes in-house, or they engage with third parties to find weaknesses before Bug Bounty hunters do. But there are more advantages! Legally enforced Bug Bounty Premiums open a guaranteed revenue stream for software savvy people. Security researchers. Computer engineers. IT students. Anyone who loves to poke into software and hunt for defects can make some additional decent money. And also those who tended in the past to sell their findings illegally on the dark market – they now have the option to move out of illegality and cash in legally.

Of course, there are some lemmas to take into account, namely “software dissemination” and “open source”. For the former, instead of having fixed premiums ($100, $200, $1000, $10 000), the premium should scale with the dissemination of the buggy software. For that small library I wrote, used just by you and me, and where you found a bug, you make hardly any money. But if you find a vulnerability in a major operating system, a dominant web browser, or a widely used library: bingo for you! And open source? This is where the state comes in. The premium is paid out of a national, European or international pot. Maybe this is the most problematic point, but in the long run, it provides another incentive to software manufactures: instead of maintaining (old) proprietary software and eventually paying out for bugs, they can consider making their source code public and open source – and the liability to pay in the event of bugs is gone. Benefit for the community: more open source code!

So, what if?

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 European general data privacy regulation changes this drastically when the bug exposes private data. Companies in breach of the regulation are fined.*

The Computer Security Team

Official communications

FAMILY BENEFITS – OBLIGATION TO PROVIDE INFORMATION

Members of the personnel are reminded that, pursuant to Articles R V 1.38 and R V 1.39 of the Staff Regulations, they are obliged to declare the following in writing to the Organization within 30 calendar days:

- any change in family situation (marriage, civil partnership, birth or adoption of a child, divorce or dissolution of a partnership, death of a spouse or dependent child)
- any change in the situation of a dependent child (end of studies, start of paid employment, military service, marriage or civil partnership, change of residence or dependence status of a spouse's child)
- the amount of any financial benefit of a similar nature to those stipulated in the Staff Regulations (e.g. family allowance, child allowance, infant allowance, non-resident allowance or international indemnity) to which the member of the personnel or a family member may be entitled from a source other than CERN.

The procedures to be followed are available in the *Admin e-guide (https://admin-eguide.web.cern.ch/en/procedure/change-family-situation).*

The Human Resources department also remains at your disposal to answer any questions: HR-Family.Allowance@cern.ch.

Members of the personnel are also reminded that any false declaration or failure to make a declaration with a view to deceiving others or achieving a gain resulting in a financial loss or loss of reputation for the Organization constitutes fraud and may lead to disciplinary action in accordance with Article S VI 2.01 of the Staff Rules.

HR department
HR-Family.Allowance@cern.ch

Announcements

FIELD WORKS, A DISCUSSION WITH ARTISTS-IN-RESIDENCE

Alan Bogana and Nicole L'Huillier, two artists-in-residence at CERN and in the astronomical observatories of Chile, present their exploratory work

Artists Alan Bogana (Switzerland) and Nicole L'Huillier (Chile) are participating in the first edition of *Simetría*, an exchange residency between CERN and the Chilean astronomical observatories.

The artists will present their exploratory works in a discussion entitled *Field Works,* facilitated by Mónica Bello, curator and head of Arts at CERN. A theme in Alan Bogana's art is the behaviour of light – real and speculative – and his residency research focuses on the conceptualisation and detection of dark matter. Observation is one of the motifs being explored by Nicole L'Huillier; she inquires into the ghostly natures of both infinitely small particles and large astronomical phenomena. The conversation will provide insights on how the artists gather and evaluate information and experiences during their residencies. It will reveal how laboratories and observatories don't function only as research spaces for scientists but how they also inspire artistic collaborations and innovations.

Simetría is a collaboration between Arts at CERN, ALMA, ESO and the Chilean Corporation of Video and Electronic Arts, made possible by support from the Swiss Arts Council Pro Helvetia through its exchange programme COINCIDENCIA, and from Chile's Ministry for Culture, the Arts and Heritage, through its New Media Area.

***Field Works* : Alan Bogana & Nicole L'Huillier, presented by Mónica Bello**
3 July, 6.30 p.m.
Centre de la Photographie Genève
BAC Auditoire, 28 rue des Bains, 1205 Genève
Free entry

A NEW BLOG TO GET UPDATES ON YOUR COMPUTING ENVIRONMENT

Check the CERN Computing Blog to get frequent news and updates about your computing environment

The computing environment is evolving at a very rapid pace and knowing it better can facilitate your daily working life. For all those reasons and many more, the IT department decided to revive its former Computing Newsletter (published between 1966 and 2010) and to revamp it in the form of a computing blog.

Posts will be regularly published, as topics happen. You will find information about key services' evolution, useful tips, updates on the MAlt (Microsoft Alternatives) project and much more.

Check out the CERN Computing Blog at http://cern.ch/computing-blog, and let us know about any topic you would like to see covered by contacting the editorial team at computing-blog@cern.ch.

The CERN Computing Blog editorial team

AWARENESS AND TRAINING: NEW MEASURES FOR STRESS PREVENTION AT WORK COMING SOON

A strong evidence base shows that work is good for health and well-being, yet surveys and studies dating back to the 1990s show that stress in the workplace is on the rise

A strong evidence base shows that work is good for health and well-being, yet surveys and studies dating back to the 1990s show that stress in the workplace is on the rise. In this context, the announcement by the Director General in 2017 paved the way for a dedicated multidisciplinary project team built around members of HR, HSE along with the Staff Association and the Ombud to investigate ways to promote and improve the quality of working life at CERN, in particular to identify, remedy, and prevent stress in the workplace.

On the occasion of a dedicated HR Public Session on 1 April 2019, the project team presented their recommendations, based on a series of input gathered outside CERN, as well as results of the focus groups and of the survey to which many members of personnel participated in June 2018 (slides and recording available on https://indico.cern.ch/event/803873/).

This session was a key milestone for the project team and for CERN. The key recommendations and main areas for improvement have been clearly identified for the implementation of a comprehensive, tailored CERN stress prevention programme to be implemented as of this year. The programme aims to provide tangible actions with proposed interventions at the individual, team, and organisational levels, focusing on reducing stress factors, increasing individual resilience and enhancing existing support systems.

The project recommendations cover three key strands: awareness, prevention and training. While the awareness raising campaign is being finalised for launch later this year, a first dedicated training session open to CERN members of the personnel is now available. This training course entitled " Experience Resilience (90 minute workshop) is intended to be highly interactive, providing opportunities to understand how best to mobilise one's resources, proactively build resilience and experiment a few “resilient practices”.

Furthermore, a training course is under development for persons with managerial responsibilities to assist them with a better understanding of their own role with respect to its impact in promoting healthy working conditions. The aim is also to facilitate the opportunity to have an open dialogue when signs or symptoms of chronic stress appear. Watch this space for more details!

_____

Further information, resources and announcements will be regularly posted on our webpages https://cern.ch/hr/wwfw. You can also follow us on the WWFW workplace group or contact us with your questions, comments or suggestions on workwellfeelwell-feedback@cern.ch.

CINEGLOBE RETURNS IN JULY

The ninth CineGlobe event will take place from 3 to 7 July 2019!

Taking “Transformation / Transcendence” as its theme, the international film festival will bring interactions between science and cinema to the silver screen. Will humanity be able to overcome global challenges thanks only to transformations made possible by science and technology, or will we have to find solutions deep within ourselves and transcend our existence?

With a selection of short and feature-length films, practical workshops and fun hands-on activities for families, there's something for everyone to enjoy. The open-air activities will run non-stop from noon to midnight (from 10 a.m. on Saturday and Sunday) in the area surrounding the Globe of Science and Innovation, CERN's public event venue.

Feeling peckish? A café will serve lunch and evening meals, as well as light refreshments throughout the festival.

CineGlobe

From Wednesday, 3 to Sunday, 7 July 2019

CERN – Globe of Science and Innovation

From noon to midnight on weekdays and 10 a.m. to midnight at the weekend.

Free, no booking required (except for the weekend workshops).

More information can be found at www.cineglobe.ch and on Facebook

BATTLE OF THE BEST: TABLE FOOTBALL TOURNAMENT RETURNS!

The tournament will take place in Restaurant 1 at CERN on 24-26 July

After the great success of last year's charity tournament, CERN Table Football Club has decided it is time for round 2. Once again, the proceeds of this event will support the Education & Outreach projects of the CERN & Society Foundation.

The tournament will take place in **Restaurant 1 at CERN on 24-26 July**.

Anyone at CERN is welcome to participate with an entry fee of 15 CHF per team, which will be directly donated to the CERN & Society Foundation.

The rules of the tournament are simple: register in a team of two, play one evening in the group stage and cross your fingers that you can make it through to the knockout stage! Last but most importantly, have fun!

More information on the prizes and registration process on cern.ch/TFTournament2019.

Read the full article here (http://cernandsocietyfoundation.cern/news/battle-best-table-football-tournament-returns).

Obituaries

LADISLAV SANDOR (1941–2019)

(Image: CERN)

Ladislav Sandor, one of the founders of the ALICE collaboration and leader of the ALICE-Košice team in Slovakia, passed away on 23 May, two days after his 78thbirthday.

Ladislav was born in the heart of a multicultural region called Spiš in north-eastern Slovakia, with plenty of historical monuments and areas of natural beauty. His interest in mathematics and physics started during his secondary-school years, at a time when nuclear physics had become a very attractive branch of science. He completed his graduate studies at Košice University in 1967 and worked at JINR, Dubna on the Hyperon experiment from 1969 to 1976. In 1977, he became the Leader of the Nuclear Physics Department at the Institute of Experimental Physics of the Slovak Academy of Sciences in Košice. He successfully led the Košice group into the field of ultra-relativistic nuclear collisions, first at the SPS (in the Helios, WA94, WA97 and NA57 experiments) and then in ALICE. As the leader of the Košice team, he contributed to the development and building of the electronics for the silicon pixel detector (SPD) of the ALICE inner tracking system (ITS), as well as to the software developments for the central trigger processor. Ladislav was a very gifted experimental physicist, who contributed significantly to several key measurements in nuclear collisions, and always maintained a passion for diving first-hand into physics analysis.

In 2002, Ladislav received an award from the Slovak Academy of Science for his role in the discovery of the hyperon enhancements, and in 2010 he was awarded a Štúr Medal from the President of the Slovak Republic for his scientific achievements. He had a pivotal role in the negotiation of the Slovak Republic's CERN membership and so naturally became the first Slovak delegate to the CERN Council.

Ladislav was a passionate photographer and enjoyed gardening, reading, playing the piano and listening to music. He was fascinated by the natural beauty, history and art of eastern Slovakia. Our warmest sympathy goes to his wife Anna, his daughter Daniela and his son Peter, together with their families. He will be immensely missed by all of us.

His colleagues, collaborators and friends

MARCELLO GIORGI (1939–2019)

(Image: CERN)

Marcello Giorgi, one of the first members of the CERN–Trieste High-Energy Group, passed away on 1 May. In the 1960s, Giorgi worked on several experiments at CERN, first at the PS, and then, as soon as the SPS started operation, on the WA6 experiment. Later, in the 1980s, he participated in a series of experiments that the Trieste group performed at LEAR. Giorgi also spent a sabbatical as a CERN Research Associate, after which, fascinated by the nucleon-spin crisis, he moved with the Trieste group to the DIS experiments with the high-energy muon beam: first the SMC and later the COMPASS experiment.

In time, his interests gradually drifted from particle physics to the history of physics and epistemology. He was the driving force behind the organisation of many conferences on "Conceptual tools to understand nature" held in Trieste in the 1990s. As a professor, he was an excellent teacher, highly appreciated by the many students who graduated under his guidance over the course of his long career.

Giorgi was a generous person, with an open character, well known at CERN and in the physicist community. A real sportsman, all his life he practiced mountaineering and climbing, and scaled Mont Blanc with Arne Lundby in the 1970s. Prior to this, he had chosen to join the alpine corps for his military service. In the following years, he continued to attend refresher training sessions with the corps, attaining the rank of senior officer. Needless to say, he was extremely proud of the white eagle feather on his alpine hat. Mountaineering was not his only love: he also loved cycling and boxing. As a welterweight, he even fought a few times, before turning to promoting the sport, always stressing the educational merits of the discipline.

A man of great culture, he had a remarkable memory. He had a great sense of humour and his friends always greatly enjoyed the stories he would tell when we would gather around a table at the end of a day. We will deeply miss him.