

## MAR CAPEANS AND BRENNAN GODDARD'S MESSAGES TO THE CERN COMMUNITY

Introducing two new Heads of Departments: Mar Capeans, (Site and Civil Engineering – SCE) and Brennan Goddard (Accelerator Systems – SY)



Mar Capeans (SCE, left) and Brennan Goddard (SY, right) (Image: CERN)

**2021 marked the start of a new mandate for the management team at the helm of the Organization. In this new video series, the newly appointed department Heads introduce themselves to our community, tell us about their journeys and provide their vision for the future of their departments.**

Mar Capeans, the new Head of the Site and Civil Engineering department and Brennan Goddard, the new Head of the Accelerator Systems department, are next in the series with their messages (below).

Mar has been part of our community for twenty-nine years since she first joined CERN as a master's student from the

University of Santiago de Compostela in Spain. A Particle Physicist, she has led several European projects and experiments before specialising in construction for particle accelerators.

This video (<https://videos.cern.ch/recording/2782097>) was recorded on 23 September.

A senior physicist, Brennan obtained a PhD in applied physics at Swansea University in Wales before joining CERN in 1992 as a fellow working on the LEP (Large Electron-Positron collider) separators.

(Continued on page 2)

## A WORD FROM CHARLOTTE LINDBERG WARAKAULLE

### CERN ALUMNI IMPACT SOCIETY

In just four years of existence, the CERN alumni network has grown to include over 7000 members. The extent and reach of the network is testimony to the interest of our alumni in remaining a part of the unique *CERNois* community and staying connected with its mission. This is an asset for the Laboratory and for science more broadly.

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# A WORD FROM CHARLOTTE LINDBERG WARAKAULLE

## CERN ALUMNI IMPACT SOCIETY

We all know that fundamental research impacts society in more ways than may be immediately obvious, through the knowledge generated and the technologies developed. But the most immediate impact is often through its people. CERN alumni are making their mark all around the world, across a wide range of fields and in diverse communities. Each of them demonstrating how fundamental research – and the skills developed through science – matter, and carrying with them the values that bind the wider CERN community together: excellence, collaboration, openness and diversity.

This contribution to society of fundamental research *through people* is at the heart of “Second Collisions”, our second major alumni reunion, which will take place online from 1 to 3 October under the theme “Research Matters”. Featuring virtual recreations of key sites at the Lab, the event will bring together, as speakers, alumni who are changing the face of space exploration, improving vaccine delivery, revolutionising business supply chains, innovating the future of healthcare, and much more – all building on the skills honed during their time as part of the CERN community.

All alumni and current personnel – no matter how long or short your connection with CERN – are invited to join and to meet former colleagues, play interactive games, learn about innovative new companies and explore career opportunities. You can register at <https://alumni.cern/page/secondcollisions>.

I hope you will join us for this very special weekend to hear inspirational stories of CERN alumni and how they impact society, and to engage with alumni from across the globe.

*Charlotte Lindberg Warakaulle  
Director for International Relations*

## MAR CAPEANS AND BRENNAN GODDARD'S MESSAGES TO THE CERN COMMUNITY

He has been part of our community ever since and acquired wide-ranging competencies in accelerator systems from his involvement with various LHC projects.

tences in accelerator systems from his involvement with various LHC projects.

*This video (<https://videos.cern.ch/recording/2782361>) was recorded on 27 September.*

## ICTP PHYSICS WITHOUT FRONTIERS WELCOMES LITTLE AMAL AT THE ESPLANADE DES PARTICULES AT CERN

Little Amal is a 3.5-m-tall animated puppet of a Syrian refugee girl who has embarked on a remarkable journey – an 8000-km artistic voyage that is taking her across Turkey and Europe. To find her mother, to get back to school, to start a new life.



*Little Amal strolled along the Esplanade des Particules and arrived at the Globe of science and innovation (Image: CERN)*

The little girl, a symbol of support and hope for people in exile, is taking part in more than a hundred events across Turkey, Greece, Italy, France, Switzerland, Germany, Belgium and the UK to focus attention on the urgent needs of young refugees.

During her journey through Europe, Amal was welcomed to Geneva on 28 and 29 September, where she made stops at the

*Place des Nations and the Grand Théâtre de Genève, passing by the Bains des Pâquis and the Parc des Bastions. On 29 September between 11 a.m. and 12 (noon), Amal met representatives of Physics Without Frontiers (ICTP) at CERN before continuing her journey to Belfort, France.*

Like many girls around the world, Amal dreams of becoming a scientist. That's why

she met representatives of ICTP: the association works to motivate, train and educate physics and mathematics university students worldwide, focusing in particular on developing countries, to help build the next generation of scientists. During her visit, Amal "interacted" with the ICTP members, who presented the actions and purpose of their association in front of an interested crowd.

Half of all refugees in the world are children. Half of all school-age refugee children have lost their opportunity of a formal education. Little Amal represents the thousands of children who, just like her, have fled war and persecution and need our support to rebuild their lives. To make this possible, THE WALK has launched The Amal Fund. The Amal Fund will support effective grassroots groups, many of them along the route Little Amal is taking. They provide academic and vocational training, as well

as essential support such as food, shelter and medical services.

Follow Amal's journey:

- Website: [www.walkwithamal.org](http://www.walkwithamal.org)
- Facebook: [www.facebook.com/walkwithamal](http://www.facebook.com/walkwithamal)
- Instagram: [www.instagram.com/walkwithamal](http://www.instagram.com/walkwithamal)

*The Walk is a production of Good Chance Theatre.*

## LS2 REPORT: THE NEW LHC COLLIMATORS

**During LS2, 16 new collimators have been installed in the LHC ready for the next run and above all for the future HL-LHC**



*Installation of the passive collimator absorber TCAPM in IR7, which protects the magnets from the losses produced by the interaction between the LHC beam and the IR7 collimators. In the picture: Cristina Bahamonde (Image: CERN)*

Upgrades of the LHC collimation system, which began during LS1, have continued during LS2. Sixteen new collimators have been installed in the accelerator over the last three years in preparation not only for the accelerator's next period of operation (Run 3) but above all for the future High-Luminosity LHC (HL-LHC).

The HL-LHC, which is due to be commissioned at the end of 2027, will improve on the current LHC's performance thanks to a tenfold increase in its integrated luminosity, i.e. the number of collisions per surface unit, thereby increasing the number of collisions inside the experiments. To achieve this, the HL-LHC's beams of particles will be more intense, which is not without its problems.

Increasing the number of particles in circulation, and therefore the number of collisions, requires the LHC's equipment protection systems to be reinforced. Particles

that stray from their trajectory could hit sensitive components such as superconducting magnets and interfere with their operation. Protection is particularly crucial in the vicinity of the experiments and the areas of the LHC that are dedicated to beam collimation.

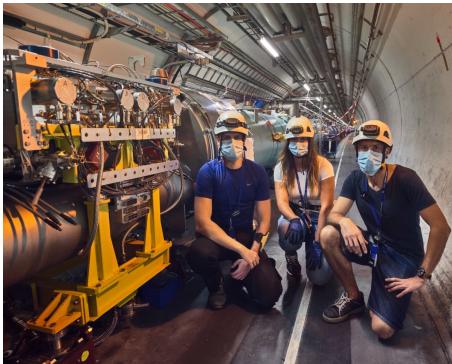
That's why the HL-LHC needs a more efficient collimation system. The collimators, which are installed in two areas of the LHC (at Points 3 and 7 of the ring) and around the four big experiments (ALICE, ATLAS, CMS and LHCb), are special devices equipped with jaws – movable blocks made of heavy-duty materials – that close around the beam to clean up the stray particles. The materials used for these jaws are capable of withstanding extreme pressure and temperatures as well as high levels of radiation. Some of the collimators have fixed apertures and are there to protect the magnets from radiation.

During LS2, 16 new collimators of various types have been installed in the machine. Two TCCLD (target collimator long dispersion suppressor) collimators were installed around the ALICE experiment in 2020. The majority of the new collimators was installed in Point 7, where most of the beam "cleaning" takes place. "We've installed no fewer than 14 collimators around Point 7 during LS2. Some have replaced existing collimators to improve them, while others are new additions," explains Stefano Redaelli, who heads up the collimation upgrade work package for the HL-LHC project. "I'd like to thank all the teams involved from the Accelerator and Technology sector (ATS) for their unfailing

commitment – they've accomplished a remarkable feat!"

Three types of collimators have been installed: four primary collimators (TCPMM – target collimator primary pick-up, metallic), eight secondary collimators (TCSPM – target collimator secondary pick-up, metallic) and two fixed-aperture passive absorbers. "The primary and secondary collimators, which were manufactured with contributions by international industrial partners, have a new design," says Stefano Redaelli. "They are based on a molybdenum-graphite compound that, thanks to its low electrical resistivity, helps to improve the stability of the planned higher-intensity beams. The secondary collimators are also coated in 6 microns of pure molybdenum, which further reduces their electrical resistivity by a factor of 20." What's more, these new collimators are equipped with sensors that monitor the beam position to allow the position of the jaws to be adjusted.

Two new crystal collimators, which were developed for operation with heavy ions, are also due to be installed at Point 7 at the end of this year. We'll report back next year with more details and the results of the first tests with beam.



*TCLD collimator installed on the right side of IP2. This is a special, compact design installed between superconducting magnets. It catches products of the heavy-ion collisions in ALICE before they reach the cold magnets. From the right: Ricardo Illan Fiasstre, Cristina Bahamonde, Inigo Lamas. (Image: CERN)*

## A QUIET REVOLUTION IS UNDER WAY AT PRÉVESSIN

**With many developments planned or under consideration, this is the decade of CERN's Prévessin site**



*Prévessin site seen from the air (Image: CERN)*

From infrastructure projects to environmental and public engagement initiatives, the Prévessin site is a hive of activity that is set to escalate over the coming years. Some, like the construction of a new Robotics building, began in 2020. Others won't be realised until around 2030. Sustainable modernisation takes time and money, but CERN consistently aims for a greener future for its state-of-the-art facilities. The developments at Prévessin rely on a collaboration and a continuous dialogue between sectors. The inclusion of various opinions is the key to our success.

No fewer than 15 projects are planned or under consideration for the site. The new Robotics building is nearing completion. Its laboratories, offices and technical rooms will be open for business by October this year. The new building will bring the activities of the Controls Electronics and

Mechatronics group from the Beams department (BE-CEM) together in a single location.

CERN's new Computer Centre, a modern and energy-efficient structure that will meet the new computing needs of the community, will also be located on the Prévessin site. It is scheduled to be operational in the second half of 2023.

The new Building 777, at 9000 square metres, will provide new offices and labs for the Accelerators and Technology sector (ATS). Open spaces and conference rooms have been designed for more dynamic interaction, while the landscaping will favour outdoor working spaces and an events area. Finally, around 300 new parking spaces are planned, which will include soft mobility infrastructure, as well as a new restaurant – to everyone's delight. Building 777 is scheduled for delivery in the second quarter of 2026.

Buildings 904 (mostly used by the Experimental Physics (EP) department), 926 and 927 (Technology (TE) department) are also entering a consolidation phase. Waterproofing, metalworks, collective protective equipment, smoke extraction systems and downpipes – all these structures will undergo major renovation between March and November 2022.

Prévessin's over 7 km of beamlines and associated technical systems, in operation since the 1970s, are also earmarked for attention through the North Area (NA) consolidation project. The NA is home to a vibrant programme of physics experiments, R&D and test beam activities, with more expected in the framework of the Physics Beyond Colliders study. While some of the site's beam facilities have already benefited from safety upgrades, the first phase of NA consolidation is scheduled to run until the end of Long Shutdown 3.

The fences enclosing the whole site will be consolidated, with landscaping improvements made where appropriate.

But the Prévessin development plans are not just about infrastructure. Mobility is an important aspect that has not been overlooked in the general planning. The importance of environmentally friendly upgrades is integral to this. The creation in 2020 of new cycle lanes encouraging soft mobility will soon be reinforced with over 50 additional bicycle parking spaces in the parking lots of Buildings 864-866 and 947. Charging stations for electric bikes and quick-plug (11-22kW) charging stations for electric vehicles are being studied, with a first pilot scheduled for the end of 2021.

Between 2023 and 2025, the car parks at Buildings 864-865 (ATS) and *Route Touschek* will be completely overhauled,

with rainwater network renovation, reprofiling of the base structure and a complete redesign to meet current standards and needs.

For those who favour public transport, a new bus stop for TPG line 66 is planned at the entrance of the Prévessin site.

CERN is also working on the implementation of three other projects. A new entrance to reflect more strongly the importance of the Prévessin site and improve its capacity to welcome visitors, a heat recovery plant from the computer centre to heat all the buildings of the Prévessin site from day one, limiting the operation of gas boil-

ers to the few peak cold days of the year, and a new retention basin to protect local watercourses. All in all, there's a great deal coming up at Prévessin, and we'll be reporting on each of these initiatives over the coming months and years.

*Cristina Coman*

## SPARKING THE FUTURE OF ARTIFICIAL INTELLIGENCE: CERN HOSTS THE FIRST EDITION OF THE SPARKS! SERENDIPITY FORUM

The first Sparks! forum is over, but you can still watch the recorded talks online



Anima Anandkumar, professor at the CMS department at Caltech and director of machine learning research at NVIDIA, spoke at the Sparks! Public Event (Image: CERN)

On 17–18 September, CERN held its first Sparks! Serendipity Forum, a two-day multidisciplinary science innovation forum and public event. The theme of the first edition of Sparks! was future intelligence – a topic relevant not only to CERN but to the rest of the world as well. The event was divided into two parts: the Forum and the public event.

Participants from around the world joined the Forum, both virtually and in person, with the aim of sparking informal and spontaneous conversations about the topic of AI, deviating away from traditional conference formats. The Forum consisted of group discussions around six key themes, from ethics to creativity in AI. Participants engaged in collaborative discussions throughout the day to identify and explore questions arising from the advent of AI.

The public event was broadcast through a live webstream and watched around the world. Bruno Giussani, Global Curator of TED, acted as host, helping to bring together influential voices from within the field of artificial intelligence. He introduced us to important conversations around current and future trends in AI and their impact on society.

The many voices represented at the public event left no stone unturned: Can identifying the potential of AI become an existential risk to society? What would the world look like if we had to share it with human-like robots? Could mapping our brain help us develop better AI? The possibility of an AI winning the Nobel Peace Prize was even considered...

Daniel Kahneman, Jaan Tallinn, Hiroshi Ishiguro, Stuart Russell, Ed Boyden and Hiroaki Kitano were among the voices exploring these topics during the public event. You can hear all of these speakers, and more, by watching the webcast.

The public event also fused science with art, opening with a video from Ouchhh, a creative media studio, showing a simulation of proton collisions in the Large Hadron Collider, located 100 metres underground at CERN. Made to Measure, an artistic data experiment that explores the possibility of reconstructing a person's life based

only on their online data, was presented by Hans Block, one of its creators.

If you missed the live webstream of the public event, you can watch it on the Sparks! website. (<https://sparks.cern/>) Alongside the webcast, individual videos will be created in a TED-style format and also made available on the Sparks! website. The content of the discussions during the Forum will be published in a CERN Yellow Report and will also form the basis of a paper in the Journal of Machine Learning, to continue the important conversations surrounding future intelligence. You can also listen to the Sparks! podcast series to hear more from some of the public event speakers.

Following on from the first edition, CERN hopes to make Sparks! an annual event, leading up to the opening of the Science Gateway in 2023. Keep an eye out for the next Sparks! event in 2022, which will be centred around another important topic in STEM.

Sparks! is part of the CERN & Society programme. CERN & Society activities are only possible thanks to support received from partners, in particular Rolex, which has a long-standing association with the Organization. The 2020–2021 Sparks! event was also supported by Edmond de Rothschild, with support from the Didier et Martine Primat Foundation.

# HOW TO TRAIN YOUR MAGNETS

Magnet training for the LHC circuits will be completed by the end of the year



The LHC magnets surround the beampipe along its 27 km circumference. (Image: CERN)

When the Large Hadron Collider (LHC) begins Run 3 next year, operators aim to increase the energy of the proton beams to an unprecedented 6.8 TeV. This means the thousands of superconducting magnets, whose fields direct the beams around their trajectory, need to grow accustomed to much stronger currents after a long period of inactivity during LS2. This is done through an ongoing “magnet training” process.

Matteo Solfaroli, part of the LHC Operations group, oversees the coordination of the hardware commissioning for the LHC. His job involves training every single chain of magnets (called a circuit), by gradually bringing them up to their nominal currents. “This is a large project because we have about 1600 superconducting circuits in the LHC, ranging from a 60-amp nominal current to 13 kiloamps,” he says. “These are really big circuits, and we need to test them all individually – we are talking about around 12 000 tests.”

If the magnets were not trained, the high currents would cause them to undergo a random phenomenon called “quenching”, where a small section of magnet coil overheats. The magnets are designed to stop

the coil burning away by distributing this heat across the whole magnet. However, this results in warming up the magnet and some of its neighbours, causing them to go above critical temperature, where they are highly resistive and unable to provide the required magnetic field.

After a quench has happened, the magnet must be cooled back to cryogenic conditions before a current can be run again. The Powering Tests team repeats the process of current increase until the magnets can withstand their nominal current without quenching.

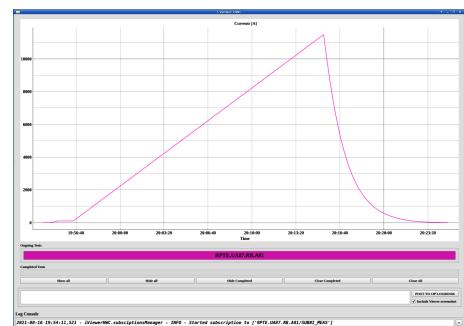
This works because the magnets have “memory”. “The magnet adjusts to the new current level,” Solfaroli said. It’s a similar principle to any other sort of training: if you have ever started running, you will know that with each session you are able to run for longer without stopping – until you reach a point where you can run for a sustained period. Muscle memory increases your endurance. Similarly, magnet memory increases their endurance to withstand high currents for sustained periods without quenching.

The eight largest LHC dipole magnet circuits need to sustain a current of 11 500 amps. “The problem is that the quench phenomena can happen in any of the magnets,” said Solfaroli. “For the small circuits, quenching is not a particular problem because this is a fast recovery. But for the main dipole circuits, the recovery time is between eight and twelve hours.”

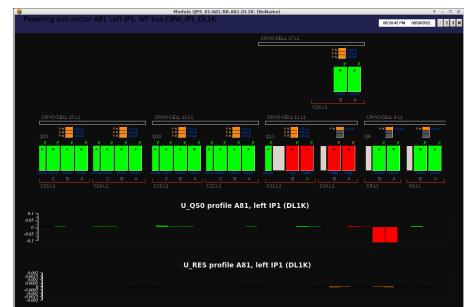
The whole process: ramping up the current for each circuit; quenching; cooling it down and repeating is long. Combined with all the testing and other processes, the whole

magnet preparation can take eight or nine months – like training to run a marathon.

The Powering Tests team expects the magnets to be fully trained by the end of this year.



Current in a main dipole circuit during training. The constant gradient is the gradual ramping up of the current, and the exponential decay is the safe extraction of the current when the quench protection system detects a quench. (Image: Powering Tests team/CERN)



How quenches look in the CCC – green blocks show magnets at nominal conditions and red blocks show magnets on which the quench protection system has reacted. (Image: Powering Tests team/CERN)

Naomi Dinmore

# COUNCIL DELEGATES VISIT NEW HIGH-LUMINOSITY LHC INFRASTRUCTURE

On 23 September, 16 CERN Council delegates visited the new underground cavern at Point 1



Left to right: Paolo FESSIA (ATS-DO), Mark THOMSON (STFC Executive Chair, UK), Mike LAMONT (ATS Director), Günther DISSERTORI (ETHZ, Switzerland), Borys GRYNYOV (State Fund of Fundamental Research Director, Ukraine), Jose Juan SANCHEZ SERRANO (Deputy DG for Internationalization of Science and Innovation, Spain), Fabiola GIANOTTI (Director-General) (Image: CERN)

During Long Shutdown 2 (LS2), and despite the disruption brought about by the COVID-19 pandemic, CERN's underground infrastructure saw the execution of two major civil engineering projects at Points 1 and 5 of the LHC. These projects

have successfully delivered the underground caverns and galleries required by the High-Luminosity LHC (HL-LHC).

The new HL-LHC cavern at Point 1, near the ATLAS experiment, sits at about 80 metres below the surface and is connected to a 300-metre-long service tunnel. Measuring around 50 metres long and 15 metres wide, the cavern will host the cryogenic equipment and other accelerator systems needed for the HL-LHC.

Last Friday, 16 Council delegates took advantage of their presence at CERN for Council week to head underground. They were joined by Director-General Fabiola Gianotti, the four directors, representatives of the HL-LHC project and support staff. As part of the one-hour visit, the group descended via the regular lift to the underground area that leads to the LHC tunnel, where the soon-to-be upgraded inner triplet system and matching section components reside. Some 100 metres into

the LHC tunnel, a small safety gallery and five flights of stairs connect the LHC to the new structures, and via this the delegates finally reached the HL-LHC cavern, where they learned more about the site's layout, future hardware and purpose.

"The construction of the new HL-LHC underground areas together with the successful deployment of the LHC Injectors Upgrade during LS2 are important milestones in CERN's plans to assure our ability to deliver meaningful physics at the energy frontier for the next 15 years or so," said Mike Lamont, Director for Accelerators and Technology. "There's still a lot of work to do, but in parallel with major upgrades to the LHC detectors, and with the strong support of the Member States, we're making good progress in our mission to deliver on the vision to ensure the future exploitation of 'the full physics potential of the LHC and the HL-LHC, including the study of flavour physics and the quark-gluon plasma', as set out in the European Strategy for Particle Physics."

## CERN HOSTS A COVID-19 VACCINATION CENTRE

The centre opened on Monday, 27 September, in the presence of the sub-prefect for Gex and Nantua, Pascaline Boulay



Pascaline Boulay, sub-prefect for Gex and Nantua in France (centre), visited CERN on the occasion of the opening of the COVID-19 vaccination centre in building 693 (Image: CERN)

Following weeks of talks and preparations, a COVID-19 vaccination centre opened on the CERN site on Monday, 27 September.

Located in Building 693, near the fire station, the centre opened its doors in the presence of the sub-prefect for Gex and Nantua, Pascaline Boulay. Ms Boulay, the representative of the French State in the *Pays de Gex*, visited the centre and was welcomed by a delegation of the Management and the CERN Medical Service.

"I'm delighted with the collaboration with the French authorities that has enabled us to offer this service," said Raphael Otzenberger, the head of the Medical Service, who explained that he and his team have been working all summer to complete the administrative formalities, prepare the premises and make the logistical arrangements for the centre to operate.

The centre is open to members of the personnel and their families, as well as retirees and contractors' personnel. However, as the centre is governed by French rules, only people who live in France or are French nationals are eligible for vaccination there.

The centre will administer the Pfizer-BioNTech Comirnaty vaccine to people who have not yet been vaccinated or who qualify for a third dose.

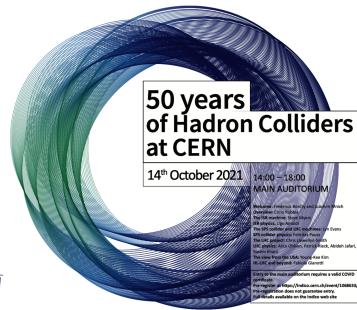
From 4 October, it will also be possible to receive the seasonal flu vaccination at the same time as the COVID-19 vaccination, for those who wish to do so.

The centre will operate for a limited period of time and will be open on Mondays, Wednesdays and Friday from 9.00 to 11.00 a.m. and from 2.00 to 4.30 p.m. You can make an appointment by calling +41 22 766 7777.

Talks are in progress with the Swiss authorities to offer a similar service for people who are not French nationals and who live in Switzerland. Until then, vaccinations are available at several centres in Geneva, some of which do not require an appointment.

*More detailed information about COVID-19 vaccinations can be found on the HSE unit's COVID-19 webpage .*

## SCIENTIFIC SYMPOSIUM TO MARK THE 50TH ANNIVERSARY OF HADRON COLLIDERS ON 14 OCTOBER 2021 AT CERN



(Image: CERN)

Pre-registration is open on Indico (<https://indico.cern.ch/event/1068633/>) for the Scientific Symposium on the occasion of the 50th anniversary of hadron colliders, which will take place in the Main Auditorium

at CERN on 14 October, from 2.00 to 6.00 p.m. The event will be webcast for those unable to join in person.

The Symposium celebrates the first collisions in the world's first hadron collider, CERN's Intersecting Storage Rings (ISR), in January 1971 and the collider's first results a few months later. The ISR was the precursor to four hadron colliders built in the United States and at CERN that have enriched the sum of human knowledge and contributed to innovation in numerous ways.

As part of the Symposium, a panel of world-class speakers, including former and current CERN Directors-General and

Directors and international experts in experimental physics, will review the rich history of hadron collider research and the achievements of these technological wonders. CERN Director-General Fabiola Gianotti will close the event with a presentation on the future of hadron colliders beyond the LHC. The full programme of the Symposium is available [here](#).

In-person attendance of the Symposium is subject to pre-registration on Indico and to the presentation of a valid COVID certificate recognised in Switzerland. Please note that capacity is limited and pre-registration does not guarantee entry, so please come to the auditorium only if you have received confirmation that your pre-registration has been accepted.

## PROFESSOR ELIEZER RABINOVICI ELECTED AS NEXT PRESIDENT OF THE CERN COUNCIL

The CERN Council today announced the election of Professor Eliezer Rabinovici as its 24th president, for a period of one year



Professor Eliezer Rabinovici, 24th President of the CERN Council (Image: CERN)

Geneva, 24 September 2021. The CERN Council has today announced the elec-

tion of Professor Eliezer Rabinovici as its 24<sup>th</sup> President, for a period of one year, renewable twice, with a mandate starting on 1 January 2022. He will be taking over from Dr Ursula Bassler, who concludes her three-year term at the end of December 2021.

"Professor Rabinovici is a brilliant theorist in the most advanced fields of research. During my presidency, I very often had the occasion to exchange with Professor Rabinovici, whose advice and contributions have always been very helpful to steer the ongoing discussions. I am confident that the Council is welcoming an excellent President, whose concern for science is of the utmost importance," said Dr Bassler.

Professor Rabinovici is currently professor at the Racah Institute of Physics of the Hebrew University of Jerusalem and the Louis Michel visiting chair at the Institut des Hautes Études Scientifiques (IHES). He received his PhD in high-energy physics at the Weizmann Institute of Science in 1974. In the following years, he worked as a research associate at Fermilab and at Lawrence Berkeley Radiation Laboratory, before returning to Israel and the Hebrew University as a senior lecturer in 1977, where he served as Director from 2005 to 2012.

Professor Rabinovici's main field of research is theoretical high-energy physics and, in particular, quantum field theory

and string theory. He has made major contributions to the understanding of the phase structure of gauge theories, which are the building blocks of the Standard Model, and the uncovering of the phases of gravity. Throughout his career, he has held positions within several councils and committees, such as member of the HEP-EPS Board (from 1996 to 2011), Chair of the Israeli Committee for SESAME (since 1997) and Chair of the Israeli High-Energy

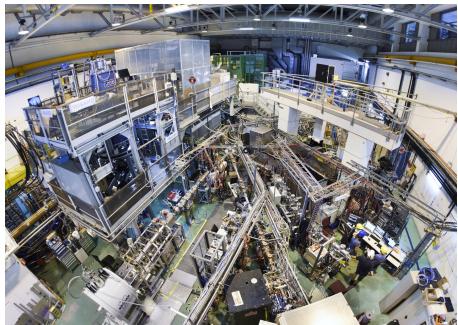
Committee (from 2004 to 2020). In 2004, he was appointed as one of Israel's delegates to the CERN Council, where he served as Vice President from 2016 to 2018.

"CERN is a special place where science and collaboration meet to answer some of the most fundamental questions about the world we live in. Throughout my 16

years as a member of the CERN Council, I have time after time been captivated by the commitment, collaboration and knowledge of people who work together towards the same mission. I am honoured that the Council chose me as their next President, and thankful that I get the opportunity to serve CERN's scientific community, Member States and Associate Member States," said Professor Rabinovici.

## GRABBING MAGIC TIN BY THE TAIL

**The ISOLTRAP experiment at CERN's ISOLDE facility has weighed the neighbouring indium nuclei of tin-100, shedding new light on this special "doubly magic" nucleus**



The ISOLDE facility seen from above. (Image: CERN)

Atomic nuclei have only two ingredients, protons and neutrons, but the relative number of these ingredients makes a radical difference in their properties. Certain configurations of protons and neutrons, with "magic numbers" of protons or neutrons arranged into filled shells within the nucleus, are more strongly bound than others. The rare nuclei with complete proton and neutron shells, which are termed doubly magic, exhibit particularly enhanced binding energy and are excellent test cases for studies of nuclear properties.

In a paper just published in *Nature Physics*, Maxime Mousseau of CERN and colleagues describe theoretical calculations and ex-

perimental results from CERN's ISOLDE facility that shed new light on one of the most iconic doubly magic nuclei: tin-100.

With 50 protons and 50 neutrons, tin-100 is of particular interest for studies of nuclear properties because, in addition to being doubly magic, it is the heaviest nucleus comprising protons and neutrons in equal number – a feature that gives it one of the strongest beta decays, in which a positron (the antiparticle of an electron) is emitted to produce a daughter nucleus.

Studies of the beta decay of tin-100 suffer from difficulties in producing it. Moreover, the two most recent such studies, at RIKEN in Japan by Lubos and colleagues and at GSI in Germany by Hinke and colleagues, yield different values for the energy released in the decay, resulting in discrepant values for the mass of tin-100.

Recent developments at the ISOLDE facility have enabled production of the neighbouring nuclei indium-101, indium-100 and indium-99, a mere proton below tin-100. In their new study, Mousseau and colleagues used all of the experimental armament of the facility's ISOLTRAP set-up to measure the masses of these new members of the

ISOLDE family, notably the mass of indium-100.

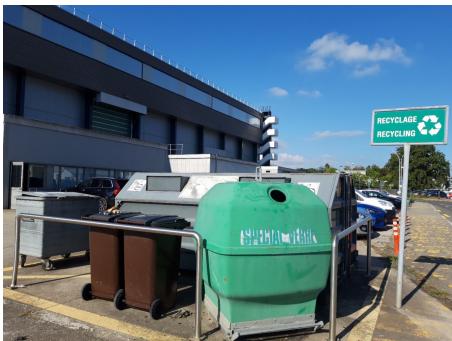
"The mass of tin-100 can be derived from that of indium-100 and the energy released in the beta decay of tin-100 into indium-100," says Mousseau, "So our indium-100 mass measurement grabbed this iconic doubly magic nucleus by the tail."

The ISOLTRAP mass measurement of indium-100 is ninety times more precise than the previous one, magnifying the discrepancy in the values of the tin-100 mass deduced from the most recent beta-decay studies.

The researchers then made comparisons between the measured masses of the indium nuclei and new sophisticated "ab initio" theoretical calculations that attempt to describe nuclei from first principles. These comparisons favour the beta-decay energy result of Hinke and colleagues over that of Lubos and colleagues. Moreover, they show excellent agreement between the measurements and the calculations, giving the researchers great confidence that the calculations capture the intricate nuclear physics of tin-100 and its indium neighbours.

# ENVIRONMENTAL AWARENESS: RECYCLING WASTE

## Let's sort better to recycle more



Recycling point near Building 156 on the Meyrin site  
(Image: CERN)

In the previous article in this series, we discussed conventional waste management at CERN and raised the topic of recycling. CERN's recycling policy for conventional waste is based on sorting at the source. The sorted waste is collected either regularly or on demand when the volume exceeds a certain amount. It is then sent to various waste treatment facilities, where it is further sorted and treated.

### What happens to CERN's recycled waste?

CERN collects conventional waste in skips and bins, each dedicated to different materials. Some of these containers (mainly scrap metal) are processed at the Recuperation and Sales service operated by the SCE department to improve sorting, while others, such as paper and cardboard, are sent directly to different recycling pathways.

Some waste, like excavation waste, is handled directly by contractors and is not included in CERN's recycling rate.

End-of-life equipment is often sent back to the suppliers and is thus integrated in a recycling pathway adapted to the specific components.

Information on where different types of waste end up can be found here ([https://smb-dep.web.cern.ch/en/Waste/What\\_goes\\_where](https://smb-dep.web.cern.ch/en/Waste/What_goes_where)). The entire list of materials recycled by CERN can be found here (<https://smb-dep.web.cern.ch/sites/smb-dep.web.cern.ch/files/documents/Divers/Tableau%20Recyclage%20et%20Valorisation%20des%20d%C3%A9chets-en.2020.pdf>).

### How many times can a typical commodity be recycled?

Most materials cannot be recycled indefinitely. Paper, for instance, can only be recycled about ten times. However, 1 tonne of wastepaper can produce up to 900 kilograms of recycled paper, while it takes more than 2 tonnes of wood to produce the same amount of new paper.

Some materials, on the contrary, are "infinitely recyclable". This is the case for glass and metals such as steel and aluminium, for example. Although the processes may be both expensive and energy-demanding, recycling is highly beneficial for a circular economy. For example, recycling 1 kg of aluminium saves up to 95% of the primary energy invested for its production, and thus avoids the equivalent emissions of 9 kg of CO<sub>2</sub>.

### Recycling challenges for CERN and its Host States

The Canton of Geneva introduced a new waste management policy in 2021, setting

a target of recycling 80% of all the waste generated by companies employing over 250 employees by 2025. The recycling rate for urban waste in the canton currently lies at 50% and the goal is to increase this to 60% by 2024.

CERN recently contracted a waste consultant to evaluate its waste management and make proposals as to how to increase the recycling rate, which amounted to 56% of total non-hazardous waste in 2018.

A particular challenge in this endeavour is to ensure proper sorting at the source. If some cardboard or paper collected in offices is soiled – for instance by a used paper coffee cup – the whole bin is likely to be "declassified" to non-recyclable. Therefore, CERN's recycling performance strongly depends on the good-will and discipline of its collaborators.

### CERN's Tidy-up Week

In an effort to raise awareness of sorting recyclable materials, the Organization has launched "Tidy-up Week", which will take place between 18 and 22 October. Read more about this event here (<https://hse.cern/services-support/environmental-protection/tidy-up-week>).

### A dedicated recycling campaign for computer equipment

The SCE department has, furthermore, launched a campaign to collect broken, obsolete and unused IT equipment. As part of the overall objective of reducing waste, the Recuperation and Sales service will either give equipment a new lease of life or recycle it properly.

# VIRTUAL CERN CREATED FOR GLOBAL ALUMNI EVENT

The Second Collisions CERN alumni event will take place online, with participants able to explore the CERN site virtually



Scenes from the virtual recreation of CERN made by the company Milton for the event. Clockwise from top left: the Esplanade des Particules, the Globe, the Main Auditorium and building 40. (Image: CERN)

CERN alumni – and current personnel – are set to come together on 1–3 October for the Organization's second major reunion. The event, which was announced in August, will see participants roam and network within a virtual recreation of the CERN site. Locations reinvented digitally include the Globe, the *Esplanade des Particules*, the Main Auditorium, Building 40, IdeaSquare and the Restaurant 1 terrace. Participants in the event will have the opportunity to explore these places and discover captivating keynote talks, fascinating networking discussions, interactive games and virtual underground visits, as well as a range of exciting surprises.

Most importantly, participants will be able to meet one another in this virtual space – uniting people across the globe for this special one-of-a-kind event.

Like real-world conferences, the event will also feature booths showcasing a wide variety of organisations and activities. There will be booths where participants can learn about the latest exciting developments from entities such as CERN openlab, IdeaSquare and CERN's Knowledge Transfer group. Some others will be run by pioneering companies, including CERN spin-offs, start-ups and established businesses. Information on employment opportunities will also be available at the booths run by representatives of these companies.

The event has the tagline "Research Matters". The goal is to delve into the ways in which those who have worked at CERN – as well as those working at the Laboratory today – have a positive impact upon society. This is reflected in the line-up of exciting speakers, which features thought-leaders in space, AI, quantum computing, humanitarianism, logistics, physics, medicine and much more (see full

programme below). The organisers have also lined up a series of special awards for alumni who have contributed to developing the network and supporting CERN's mission, as well as those who have gone on to enjoy successful careers in impactful sectors. Join us to find out their stories too.

Don't miss out: join the hundreds already signed up for this exclusive weekend here: <https://alumni.cern/page/secondcollisions>. Register by 30 September and we'll see you at CERN – virtually!

CERN Alumni online	
Second Collisions	
Research Matters Alumni Impact on Society Programme	
Friday 1 October (CET) 12:00–12:30 Welcome & CERN Alumni Relations Rachel Bray 12:30–13:00 Pegasus: CERN Director General The Future of CERN 13:00–13:30 CERN’s Impact on Society 17:00–18:00 Shannon Towey (NASA, Jet Propulsion Laboratory) 18:00–18:30 David Spergel (Princeton University, Princeton University Research Center) 18:30–19:00 Michael Woschnak (Polish Space Agency) 19:00–19:30 Michael Woschnak (Polish Space Agency) 19:30–19:45 Networking tables in R2/Company booths 20:15–20:30 Networking tables in R2/Company booths 20:30–20:45 Networking tables in R2/Company booths 20:45–20:55 Networking tables in R2/Company booths 20:55–21:00 Networking tables in R2/Company booths 20:15–20:30 CERN Alumni Award Ceremony	Saturday 2 October (CET) Artificial Intelligence, Machine Learning, Deep Learning, Big Data 14:30 Michael Feindt (founder, Blue Yonder and Deepsense.ai) 15:00 Monisha Sharma (CEO, Co-Founder, Alcedis) 15:30 Charlotte Watney (Data Scientist, P&G) 16:00–16:30 Key Clues (founder, KLOKON, Melabatik) 16:30–17:00 CERN’s Impact on Society 17:00–17:30 David Spergel (Princeton University, Princeton University Research Center) 17:30–18:00 Michael Woschnak (Polish Space Agency) 18:00–18:30 David Spergel (Princeton University, Princeton University Research Center) 18:30–19:00 Michael Woschnak (Polish Space Agency) 19:00–19:30 David Spergel (Princeton University, Princeton University Research Center) 19:30–19:45 Networking tables in R2/Company booths 19:45–20:00 Networking tables in R2/Company booths 20:00–20:15 Networking tables in R2/Company booths 20:15–20:30 Networking tables in R2/Company booths 20:30–20:45 Networking tables in R2/Company booths 20:45–20:55 Networking tables in R2/Company booths 20:55–21:00 Networking tables in R2/Company booths
Sunday 3 October (CET) Science Communication 14:00–14:30 CERN’s Impact on Society Physics, Academics, University Melbourne & Oxford) 14:30–15:00 Networking tables in R2/Company booths in Networking tables in R2/Company booths in Entrepreneurship 15:00–15:30 Anneke Alia (CEO & Co-Founder at KLOKON) 15:30–16:00 Henning Frisch Schaper (former Member of the Board of CERN, former ILC, SEIKEN) 16:00–16:30 Patrick Gervais (CERN Science Communication)	Science Communication 14:00–14:30 CERN’s Impact on Society Physics, Academics, University Melbourne & Oxford) 14:30–15:00 Networking tables in R2/Company booths in Networking tables in R2/Company booths in Entrepreneurship 15:00–15:30 Anneke Alia (CEO & Co-Founder at KLOKON) 15:30–16:00 Henning Frisch Schaper (former Member of the Board of CERN, former ILC, SEIKEN) 16:00–16:30 Patrick Gervais (CERN Science Communication) 16:30–16:45 Challenge winners 16:45–17:00 Goodbye from CERN

<https://alumni.cern/page/secondcollisions>

Please note that the programme is subject to change and may be updated to reflect changes.

The weekend will be jam-packed with innovation, insights and ideas. (Image: CERN)

Andrew Purcell

## COMPUTER SECURITY: KILL THAT HORSE

This summer, various security outfits reported on a particular nasty kind of spyware found installed on iPhone devices. Dubbed "Pegasus", this malware is thought to be designed by a shady security company and sold to governments and others in order to spy on journalists, activists and even politicians (like the French President). An estimated 50 000 devices may have been targeted. Once installed, the Pegasus malware has full access to the device and can extract contacts, emails, phone calls, switch on the microphone and the camera, etc.

Its nastiest feature, however, is its silence. No user interaction is necessary to infect the device. No click on a malicious link. No opening of a malicious attachment. No browsing to a malicious webpage. Remember your security mantra "STOP – THINK – DON'T CLICK"? It's void

in this particular case – a so-called "zero-click attack". All that's required is for an attacker to send a well-crafted iMessage to your iPhone and the damage is done. Compromised without any chance to protect yourself. The only chance of spotting Pegasus in action is dedicated network monitoring: watching out for specific Pegasus-related network traffic, IP addresses and domain names. So far, luckily for us(?), the CERN intrusion detection systems have not spotted any attacks related to Pegasus.

Fortunately, the time has come to kill that horse for good. Apple has finally managed to release updates for its iOS iPhone operating system that are supposed to fix the initial attack vector (at least, those that we know about). We urge you to apply those updates as soon as possible (Settings → General → Software Update). Ideally,

you already have automatic updates enabled. Not only for your iPhone, but also for all your other devices, PCs, laptops, tablets, etc., regardless of whether you prefer Microsoft's Windows, Linus Torvald's Linux, Google's Android or Steve Jobs' Macbook. Let them take care of your operating system and update your devices as soon as their most secure version is ready for deployment.

Do you want to learn more about computer security incidents and issues at CERN? Follow our Monthly Report ([https://cern.ch/security/reports/en/monthly\\_reports.shtml](https://cern.ch/security/reports/en/monthly_reports.shtml)). For further information, questions or help, check our website (<https://cern.ch/Computer.Security>) or contact us at Computer.Security@cern.ch.

Computer Security team

# Official communications

## ANNUAL INFORMATION MEETING OF THE PENSION FUND ON 14 OCTOBER

All members and beneficiaries of the Pension Fund are invited to attend the **Annual Information Meeting on Thursday 14 October 2021 from 3 p.m. to 4 p.m. by webcast.**

As well as providing an update on the Fund, the PFGB Chair and Chief Executive Officer of the Fund would also like to answer any questions you may have. Since

they will unfortunately be unable to take questions live, they invite the Members and Beneficiaries to **send questions in advance of the meeting before Monday 11 October** by post to:

Mr Doug Heron  
Chief Executive Officer  
CERN Pension Fund  
“Annual Information Meeting”

Office 5-5-012, Postbox C23800  
CH-1211 Geneva 23 - Switzerland

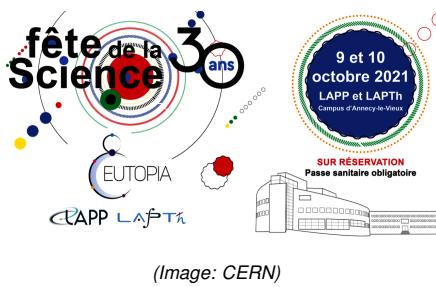
Or via email to: [pension-fund@cern.ch](mailto:pension-fund@cern.ch)

The 2020 Pension Fund Annual Report and Financial Statements is available on the Pension Fund website.

## Announcements

## CERN TAKES PART IN FÊTE DE LA SCIENCE IN ANNECY-LE-VIEUX

On 5, 9 and 10 October, CERN will take part in Fête de la Science in Annecy-le-Vieux for the first time



On the Annecy campus of the University of Savoie Mont Blanc, a wide variety of stands, workshops, exhibitions and conferences are organised each year by the particle physics laboratory (LAPP), the theoretical physics laboratory (LAPTh) and the neighbouring engineering school (Polytech) on the occasion of *Fête de la Science* (Science Fair).

For the first time, CERN has been invited to participate and meet the people of Haute-Savoie.

On 5 October, a cinema evening will be held at *La Turbine* theatre: a screening of the film *Particle Fever* will be followed by a Q&A session where you will have the opportunity to meet scientists from CERN and LAPP. What's more, during the LAPP open house weekend from 9 to 10 October, CERN invites you to visit *Accelerating the Future*, a photography exhibition about CERN's research, its applications in our daily life and how particle accelerators may help push the limits of human knowledge in the future. CERN and LAPP have also prepared other surprises, such as the LHC tunnel selfie-point and the

Salad Bowl Accelerator demonstration. In addition, the Eutopia Discovery Centre will offer hands-on activities for young future scientists.

The full programme and the health and safety measures can be consulted here (<https://lapp.in2p3.fr/spip.php?article3130&lang=fr>).

Registration for the LAPP open house weekend is open here: <https://eutopia-annecy.in2p3.fr/res...>

For other events, register through the *Fête de la Science* website: <https://www.fetedelascience-aura.com/>

# CERN'S SWISS POST OFFICE IS MOVING



The Swiss Post branch in building 500 will close permanently on 29 September 2021 (Image: CERN)

As of Friday, 1 October 2021, the post office located in Building 500 on the Meyrin site will move to the Kiosk operated by

Novae, opposite the current branch, which will close permanently. The new office will take the form of a partner branch in the Kiosk, a system that eliminates certain constraints while maintaining an equivalent level of postal services and allowing customers to simultaneously access services provided by the Kiosk.

The vast majority of postal services will still be offered at the new postal branch at the Kiosk, including sending letters and parcels abroad, buying stamps and making withdrawals with the PostFinance card or payments with any debit card. In addition, the convenient opening hours will facilitate your operations – the branch will be open

from 8 a.m. to 4 p.m. from Monday to Friday, just like the Kiosk.

This organisational change was prompted by a continuing decline in business volume due to a shift in consumer habits towards digital transactions. The new model of partnered branches, which exists at more than 1200 locations throughout Switzerland, will be better suited to these new practices. The staff of the current post office will be relocated to another post office in the region.

The current CERN postal branch will remain open until Wednesday, 29 September 2021.

## KNOWLEDGE TRANSFER SEMINAR: EARLY-CAREER RESEARCHERS IN MEDICAL APPLICATIONS @ CERN – SHORT TALKS



KT Seminar - Short talks by Early-Career Researchers (Image: CERN)

CERN's Knowledge Transfer group would like to invite you to a Zoom KT seminar on 6 October at 2.00 p.m., to discover how technological advances for high-energy physics have become essential tools for modern medicine.

This series of short talks is given by Early-Career Researchers (ECRs) working on projects related to diverse medical applications that arise from technology developed at CERN and in high-energy physics. In this seminar, three ECRs working on the Next Ion Medical Machine Study (NIMMS) project will share their work.

The NIMMS project outlines an umbrella R&D programme of critical accelerator technologies related to ion therapy. The programme builds on existing activities and on core CERN competences.

Maurizio Vretenar will introduce the panel of speakers: Vittorio Bencini, Rebecca Taylor, and Ewa Oponowicz.

For more information, please visit: <https://indico.cern.ch/e/ecrmanimms>

*Knowledge transfer at CERN could not happen without the knowledge exchange between experts in science, technology and industry. The Knowledge Transfer (KT) seminars, launched in 2016, are a series of events designed to raise awareness about knowledge transfer at CERN and to showcase the diversity of applications of CERN know-how and technology in industry and the resulting positive impact on society. The seminars also aim to inspire a culture of entrepreneurship and to explore and spark interest in other KT-related topics of interest.*

*For information about the next KT seminar, sign up to our e-group at <http://cern.ch/go/F9cX>*

# ONLINE TOWN HALL MEETING ON CERN COUNCIL WEEK – MONDAY 11 OCTOBER 2021

Last Friday marked the end of CERN Council week, a week of intense and very fruitful discussions on the ongoing scientific programme and other activities of the Laboratory and their future.

CERN Director-General Fabiola Gianotti is inviting all personnel to an online informa-

tion meeting on Monday 11 October 2021 from 2.00 p.m. to 3.30 p.m., to share with you the highlights of this Session, together with news from the accelerators and experiments and the latest updates on the COVID-19 response and measures at CERN.

The meeting will take place fully online, in English, with simultaneous interpretation into French. As usual, you will be able to submit questions via a link that will be published a few days before the meeting starts on the meeting's Indico page.

## UNAVAILABILITY OF GAS STATION ON PRÉVESSIN SITE ON THURSDAY 30 SEPTEMBER

Please note that the gas station on the Prévessin site will be closed on Thursday 30 September all day because of main-

nance work. The gas station on the Meyrin site is unaffected and will remain open.

We apologise for any inconvenience caused.

SCE department

## ELECTIONS TO THE COMMITTEE OF THE MUTUAL AID FUND

Every two years, elections are held to replace some of the members of the committee of the Mutual Aid Fund. By virtue of article 6 of the Regulations of the Mutual Aid Fund, three committee members must be replaced this year.

All members of the personnel are eligible to stand. If you would be willing to dedicate around two hours per month of your working time to help colleagues who are in financial difficulty, please consider joining this independent body.

Send your application to the President of the committee, Sonia Casenove ([sonia.casenove@cern.ch](mailto:sonia.casenove@cern.ch) (<http://sonia.casenove@cern.ch>)), by 15 October 2021.

## FÊTE DE LA SCIENCE 2021 IN FERNEY-VOLTAIRE: DISCOVER CERN'S ACTIVITIES

As part of the fifth edition of the Village des Sciences in Ferney-Voltaire, CERN will be present on Saturday, 9 October and will organise a pre-event on Wednesday, 6 October



In the splendid gardens of the Château de Voltaire, the Ferney-Voltaire authorities, in partnership with the association Pangloss Labs and with the support of the *Centre des monuments nationaux*, will celebrate the 30th anniversary of Fête de la Science on Saturday, 9 October, from 10.00 a.m. to 6.00 p.m.

Visitors of all ages will also have the chance to discover CERN's activities in a fun and accessible way thanks to various stands: a computer treasure hunt, a show on particle detection, a collaborative game to understand how detectors work, an introduction to the basic principles of electric circuits, and Pixel Art.

The programme includes workshops, exhibitions and lectures where scientists will share their knowledge and passion for science and biodiversity with the public.

The full programme is available at: [panglosslabs.org/fdl-2021](http://panglosslabs.org/fdl-2021).

### New this year: a pre-event presented by CERN during the Fête de la Science week!

As part of this 2021 edition, on the theme “EURÊKA! émotion de la découverte”, CERN has decided to celebrate the birth of the World Wide Web. For this tribute, a movie-debate evening will take place on Wednesday, 6 October 2021, from 8.00 to 9.30 p.m., around the documentary *ForEveryone.net*. The screening will be followed by a discussion with François

Flückiger (internet promoter in Europe whose responsibilities have included managing the WWW team at CERN), moderated by Maria Girone (Chief Technology Officer of CERN openlab).

Follow the event on Facebook and register here (<https://indico.cern.ch/event/1072342/>).

*The event will follow COVID-19 health protocols in line with the legislation in force in Ain. A COVID Certificate is required for all visitors aged 12 and over. More information*

(in French) can be found on the website of the Ain prefecture .



WWW cinema-debate banner (Image: CERN)

## CERN COLLABORATES WITH “100 + 1 YEARS OF INTERNATIONAL LIFE” EXHIBITION IN DIVONNE-LES-BAINS

The exhibition, organised by the Divonne-les-Bains authorities, traces the history of cross-border relations between the Pays de Gex and Geneva from 1920 to the present day



Divonne-les-Bains (left) and Geneva (right) (Image: CERN)

In 1920, Divonne-les-Bains was a small rural spa town, the Pays de Gex was farmland and Geneva was preparing to host the League of Nations. In 2021, Divonne-les-Bains shines with its own light, the Pays de Gex has increasingly close ties with neighbouring Switzerland and Geneva has become a major hub for international cooperation.

Through documents, maps, photos, videos and interviews, this exhibition takes you on a journey through the history of cross-border relations and their impact on the local population.

As a cross-border international organisation established in the region since 1954, CERN could not be absent from this event. Take this opportunity to find out more about local history and the CERN facilities in the area.

“100 + 1 years of international life” will be open to the public from **29 September to 24 October** at the *Maison du Projet de l’ÉcoQuartier de la Gare*, from Wednesdays to Saturdays from 2.00 to 6.00 p.m. and on Sundays from 10 a.m. to 5 p.m. On Sunday, 17 October, a

guided tour “International Geneva: 100 years of architecture” will be run by the Arpadi association. Registration required: [arpadi.patrimoine@gmail.com](mailto:arpadi.patrimoine@gmail.com)

This exhibition, the brainchild of the Divonne-les-Bains authorities, has been made possible thanks to the support of the Auvergne-Rhône-Alpes Region, the Ain department, the United Nations Office at Geneva, CERN, the WTO and the associations ARPADI, Divonne Yesterday and Tomorrow, and Divonnelectro.

More information:

Exhibition leaflet

[www.divonnelesbains.fr](http://www.divonnelesbains.fr)

## JOIN ITALY@CERN 2021: CONNECTING TECHNOLOGY EXPERTS WITH ITALIAN COMPANIES

CERN will welcome representatives of the Italian industry on 7 October 2021 in a digital format

The event will see a spectrum of Italian companies, working in a diverse range of

fields of interest to researchers, engineers and technicians at CERN.

The purpose of the event is to develop the commercial relationship between CERN and leading companies in its Member

States. Procurement remains a fundamental aspect of CERN's economic impact in its Member States and, reciprocally, advancements in accelerators, detectors and computing take shape through successful business collaborations with a variety of industries.

Anyone at CERN is welcome to attend.

If you have not already received an invitation and would like to participate, please send an email to [it-at-cern-contacts@cern.ch](mailto:it-at-cern-contacts@cern.ch).

Consult the complete program here:  
<https://italycern.cern.b2match.io/>

## Ombud's corner

### LISTENING AS AN EFFECTIVE MANAGEMENT TOOL

As a CERN manager, you need to have access to many different channels of information. One – and perhaps the most important – of those channels is direct communication with your team and your peers.

However, if you have not created an environment where people are encouraged to speak up about the issues they face or the risks they see emerging, the information you receive might be incorrect, incomplete or biased, i.e. of little use.

Visitors to the Ombud's Office often express the concern that they may not be really listened to. Many of them have attempted to pass messages to their supervisors that they feel have not been received. It's possible that the message was not clear, did not land at the right time for the manager or needed to be reiterated, but any attempt to speak up that is not listened to, might discourage further attempts.

For managers, the art of listening has two key components:

- **Actively listen** to others without distraction or judgement, with the sole aim of focusing on understanding;
- **Create a team environment** where colleagues feel comfortable sharing their concerns, as well as their successes, without hesitation.

Listening in this way will give you the information that you really need on opportunities that could be taken or risks that should be mitigated. Here are a few steps to follow to create a true listening environment or improve the existing one:

#### Protect yourself from blind spots

Let your supervisees – and your peers – know that you wish to be challenged and that you really want to hear the truth, even when it's not good news.

#### Keep your door open

Hierarchy is necessary to manage complex environments. However, it does not play any part in the respect that you owe to an individual, as respect is due to everyone. Don't let your team be intimidated by a title or seniority – invite everyone to come to you and speak freely on any matter.

#### Give permission to tell you bad news

Make your supervisees aware that knowing about an issue and not sharing it with you is not what you need from them. Be practical and put in place a system whereby bad news, as well as good news, can reach you – whether by text message, email or knocking on your door.

#### Boost your team's confidence to solve problems

If you regularly celebrate achievements, your team will believe in their capacity to overcome obstacles and will not hesitate to share them with you, in time to nip them in the bud.

#### Don't shut yourself away in an ivory tower

Invest time and energy in walking around the offices, corridors, workshops, halls and any other place where your team work in order to talk and listen to them. Reiterate your objectives and your strategy to achieve them. Encourage them to talk about their concerns, knowing that they will be truly listened to. It does take time but it's an essential part of your management duties.

Finally, and most importantly, **listen without judging or ulterior motives**

With such a busy agenda, it might be difficult for you to be completely present in meetings and listen to everything being said. But if you want to get the information that people are trying to share with you, you can't be constantly thinking of what to say next. Fight the impulse to take the lead and affirm your authority – this is listening time!

**When managers systematically listen carefully and foster an environment where colleagues feel free to deliver the good and the not-so-good news, they get the information they need to see emerging risks as well as opportunities, which allows them to do a better job.**

*Laure Esteveny*

*I want to hear from you – feel free to email [ombud@cern.ch](mailto:ombud@cern.ch) with any feedback or suggestions for topics you would like me to address.*

*NB: If you wish to be informed of posts, news or other communications from the CERN Ombud, please register to CERN Ombud news.*