

## THE ESPLANADE DES PARTICULES IN MEYRIN



The *Etat de Genève* and CERN are today announcing the imminent start of work just outside the CERN site to create the brand-new *Esplanade des Particules*, a space worthy of Europe's leading laboratory for particle physics. At the gateway into Geneva and Switzerland, CERN is already a top visitor attraction and enjoys global renown. The project will integrate the Laboratory better into the local urban landscape, making it more open and more easily accessible. Work will begin on 18 April and will last for a period of 16 months.

The idea for an *Esplanade des Particules* came jointly from the *République et Canton de Genève*, CERN and the *Commune de Meyrin*. A competition was launched in 2011 for a redesign of the Route de Meyrin intended to showcase the public entrance

to CERN. The landscape architects *Studio Paolo Bürgi* of Ticino won this international competition with their design for a large space dedicated to pedestrians and sustainable modes of transport, connecting CERN's Reception to the Globe of Science and Innovation, a symbol of CERN and of sustainable development, donated to the Organization by the Swiss Confederation.

In 2016, more than 120 000 people from all over the world visited CERN. In order to facilitate access for this ever-growing number of visitors, the *Esplanade des Particules* will be a public space aimed at sharing CERN's creative and dynamic atmosphere, with local and international visitors alike.

(Continued on page 2)

## A WORD FROM CHARLOTTE LINDBERG WARAKAULLE

### CELEBRATING SCIENCE AROUND THE WORLD

Later this month, on Earth Day, 22 April, people around the world will celebrate science and affirm its importance to society through a series of marches and gatherings in at least 10 countries. One of those marches is taking place in Geneva, a city with a proud scientific tradition stretching back to long before CERN set up shop here in the 1950s. Today, CERN is an integral part of scientific Geneva, and although the Laboratory is not a formal organiser of the march, I imagine that many CERNois and CERNoises will be there.

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# A WORD FROM CHARLOTTE LINDBERG WARAKAULLE

## CELEBRATING SCIENCE AROUND THE WORLD

CERN works hard to promote scientific values, along with the great progress in human societies that science enables, and the importance of evidence-based decision making in all walks of life. Science underpins modern society, and that's something that's certainly worth celebrating and upholding for all to see.

Science stems from curiosity, a defining feature of all humanity. Curiosity spurs us to explore the neighbourhood around us, the world we share with such a dazzling profusion of life, and indeed this great wonderful universe we call home. Curiosity is not the province of any race, gender or political doctrine:

it's common to all of us, and so it's fitting that it should be celebrated around the world.

CERN has a particularly important place in global science. The Organization is founded on principles of openness and free exchange of people and ideas. Cross-border collaboration is part of our *raison d'être*, and we embrace the diversity of our 100-nationality-strong user community. CERN is a shining example of what humanity can achieve when we put aside our differences, whether political, religious or other, and focus on the common good.

According to its mission statement, the march for science champions robustly funded and publicly communicated science as a pillar of human freedom and prosperity. It aims to bring together a diverse, non-partisan group to call for science that upholds the common good. So if you are going on the march, take pride in science and uphold the values of apolitical inclusiveness that CERN stands for. But most of all, enjoy yourself, as you will be celebrating the scientific method, the greatest force for good ever to be born of human minds.

*Charlotte Lindberg Warakaulle  
Director for International Relations*

## THE ESPLANADE DES PARTICULES IN MEYRIN

40% of the project is financed by the Swiss Confederation in the framework of the urban development project and the remaining 60% is split between the *Canton de Genève*, CERN and the *Commune de Meyrin*. "As a cross-border international organisation, CERN embodies the spirit of *Grand Genève* and I'm happy that this project, which is worthy of this emblematic institution, is coming to fruition," said Mr Luc Barthassat, state councillor in charge of the Department of the Environment, Transport and Agriculture.

"As with the Globe of Science and Innovation, which symbolises our desire to welcome the general public, the *Esplanade des Particules* will further demonstrate CERN's openness to the city of Geneva and to the world," said Dr Fabiola Gianotti, CERN Director-General. "We are looking forward to working with all of our partners to continue to develop the space around the Globe."

The *Esplanade des Particules* is a public space comprising several key features:

- The current Flags Car Park will be replaced by a blue-coloured pedestrianised area that will extend as far as the Globe.
- A forest of national flags will cross the Route de Meyrin to link CERN's main site with the Globe, symbolising CERN's international collaboration.
- A large number of covered bike racks will be constructed.
- The Route de Meyrin will continue to serve road traffic but the speed limit will be reduced to 50 km/h at the point where it crosses through the public area.

"We are pleased to be participating in this project, which will increase CERN's visibility in the local area," said Mr Pierre Alain

Tschudi, administrative councillor for the *Commune de Meyrin*. "This work is fully in line with Meyrin's desire to create attractive and pleasant public spaces to help us all to live together in harmony."

### Impacts of the work on transport:

- The Route de Meyrin will remain open.
- Public transport (bus Y and tram 18) will continue to operate.
- CERN's entrances will remain accessible.

To know more, watch the video (<http://cds.cern.ch/record/2257567>) and see the photos (<http://cds.cern.ch/record/2257627>) of the design.

All the updates will be published on CERN neighbours site (<http://voisins.web.cern.ch/en/esplanade-des-particules>).

# LHC REPORT: GETTING READY TO RESTART

At the end of March, the first sectors of the LHC became available, allowing the restart of the power converters and the performance of electrical quality assurance tests (ELQA), which are now in full swing. In the coming days, the “patrols” will be completed, ensuring that no persons remain in the tunnel before it is closed and the access control and safety system is activated. This will be followed by the Departmental Safety Officer (DSO) tests on 7 April, af-

ter which the hardware permit and later the beam permit can be signed.

On the injectors side, LINAC2 is operating and has accelerated the beam up to 50 MeV, nearly ready for the PS Booster to take beam in the week of 10 April. The PS Booster’s heart is beating again following recommissioning of the main power supply. The SPS was closed on Friday, 24 March and tests and adjustments on the

renovated power converters are ongoing. The PS was one of the last machines to be closed, on Friday, 31 March, and many tests are in progress on various equipment to ensure that everything will be ready in time for injection of beam into this machine, planned for Easter Monday.

*Rende Steerenberg for the Operations group*

## THE TECHNICAL INFRASTRUCTURE TEAM NEVER SLEEPS



*“Since many new or renovated installations appear after each technical stop, thus adding to the list of new alarms to configure, the number of synoptic panels in the TI control room is constantly growing.” (Image: CERN)*

When all the accelerators stop for the annual year-end technical stop (YETS), the accelerator operators get a well-deserved break. But this is not the case for the operators in the Technical Infrastructure section of the Operation group of the Beams department (BE-OP-TI), who are working in shifts 24 hours a day, 365 days a year, monitoring CERN’s infrastructures.

The Technical Infrastructure (TI) operators look after machine buildings, accelerators, experiments and other important or critical CERN facilities, like the computer centre. They monitor alarms for everything: from the incoming 400 kV electrical supply to individual circuit breakers, from the fire and gas safety, cooling and ventilation systems, to more specific installations such as the cryogenics for the experiments and the environmental systems.

The operators act as first responders and it is also their responsibility to prioritise and report faults and interventions. Not only

do they monitor the infrastructure, but they also track and arrange maintenance activities on all systems.

When the accelerator complex is stopped, a huge amount of maintenance is done on all the technical infrastructure, and therefore the year-end technical stop is the busiest period of the year in the Technical Infrastructure Control Room.

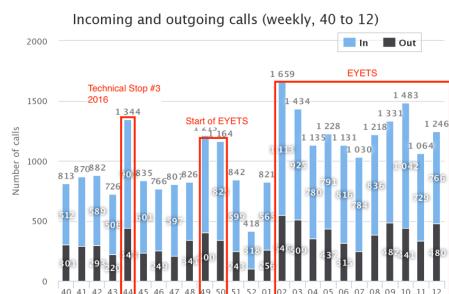
As the operators are often in contact with a large number of technicians working on many different systems, and with people contacting the TI team to request repairs for malfunctioning equipment, a good measure of the activity in the Technical Infrastructure control room is the amount of phone calls. As seen in the picture below, the EYETS is very easy to detect from the amount of phone calls in that period.

During this very busy period, when many interventions are happening at the same time, breakdowns are also inevitable, and this year was no exception. On 9 March, a general power cut occurred, taking out the power supply all around CERN. The TI team coordinated the work of all the technicians intervening throughout CERN and quickly returned everything to normal. Needless to say, it was a busy day in the Technical Infrastructure control room.

When the machine is stopped, a good deal of effort also goes into upgrading all the relevant control systems and, during this period, whole new installations are commissioned. Operators will need to be trained in

these new systems and tools, writing new procedures and operating the installations, with the help of the experts. Since many new or renovated installations appear after each technical stop, thus adding to the list of new alarms to configure, the number of synoptic panels in the TI control room is constantly growing.

Over the past few weeks, the accelerator complex has been getting ready to restart. The biggest challenge for the Technical Infrastructure team is now to make sure that all the systems that were undergoing maintenance are started up properly, and that all the alarms are put back into service accordingly. The team is ready for when the beam comes knocking on the door in the not-too-distant future.



*“A good measure of the activity in the Technical Infrastructure control room is the amount of phone calls.”*

*Jesper Nielsen for the Technical Infrastructure section*

# SIR TIM BERNERS-LEE RECEIVES A.M. TURING AWARD

On 4 April, CERN alumnus Sir Tim Berners-Lee received the 2016 ACM A.M. Turing Award. The award is given by the Association for Computing Machinery (ACM) and it is often referred to as the "Nobel Prize" of computing.

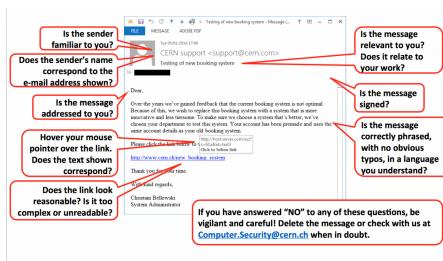
In 1989, while working at CERN, Berners-Lee wrote a proposal for a new information management system for the Laboratory. By the end of the following year he had developed the fundamental protocols and produced the first web server and browser: he had invented the World Wide Web.

Considered one of the most influential computing innovations in history, the World Wide Web is the primary tool used by billions of people every day to communicate, access information, engage in commerce and perform many other important activities. On 12 March this year, the web had its 28<sup>th</sup> anniversary. On this occasion Berners-Lee, who is now a Professor at Massachusetts Institute of Technology and the University of Oxford, and director of the World Wide Web Consortium (W3C) and the World Wide Web Foundation, published an open letter on how the web has evolved.

The A.M. Turing Award carries a \$1 million prize, with financial support provided by Google, Inc. It was named in honour of Alan M. Turing (1912–1954), a British mathematician and computer scientist. Turing made fundamental advances in computer architecture, algorithms, formalisation of computing and artificial intelligence. He was also a key contributor to the Allied cryptanalysis of the Enigma cipher during World War II.

Iva Raynova

## COMPUTER SECURITY: ONE CLICK AND BOOM... (RELOADED)



Browsing the World Wide Web is not as easy as it seems... One wrong click and all your passwords (CERN, Facebook, PayPal, Amazon, etc.) could be stolen; all your activities could be clandestinely monitored (mouse movements and clicks, words typed, screenshots, microphone and webcam recordings, etc.); confidential documents could be stolen; and an attack path (a so-called back-door) into CERN could be opened... As a result, you would have to reinstall your computer from scratch and change all your passwords! One of our colleagues learned this the hard way. One wrong click in summer 2015 permitted malicious attackers to infiltrate CERN but, fortunately, no real damage was done. Still, the cost of investigating the incident ran to several tens of thousands of Swiss francs and a lot of time was wasted trying to understand the attacker's intent and the extent of the infiltration...

With the goal of increasing more awareness of the risk of clicking on links in unsolicited e-mails, the Computer Security Team recently re-ran the "Clicking

Campaign", sending fake e-mails to you and your (our) colleagues, intended to lure you into clicking on the embedded link. Once an unfortunate, imprudent victim clicks, they are led to an informative webpage explaining "how to identify malicious e-mails" (see the image). Of course, this click rate is proportional to how sophisticated and well-targeted the e-mail is: the more convincing the look and content of the e-mail, the higher the probability of a click (up to a point where a distinction is possible only by experts). Therefore, in order not to be biased (we can easily design e-mails which you will definitely click), we reused the fake e-mails designed for us by students at the University of Rotterdam for last year's campaign). Then, their boundary condition was to use only information that is publicly available from CERN's webpages or from their own imaginations. Still, the results were frightening. Some suggestions were so well-designed that more or less everyone at CERN receiving them would have clicked. Experts would call this a sophisticated and targeted attack, a so-called Advanced Persistent Threat (APT). In the end, we selected five fake e-mail suggestions that we deemed to be basic, simple and "easily" identifiable as malicious by the recipients...

The click rates, however, told a different story. Once more, we got an average click rate of 18% (comparable to last year's number)! One in five recipients clicked on the link... If those e-mails had been real

malicious messages, clicking would have meant: computer infected, all local activities monitored, password stolen, data lost and an attack platform into CERN opened. That one click could have had severe operational and financial consequences for CERN... So if you fell for this scam, and our sincerest apologies if you did, let us explain to you how you can better identify such e-mails and what consequences clicking on such a malicious link might have for you and your digital assets:

On the positive side, many people identified those fake e-mails for what they were: malicious. We got hundreds of ServiceNow tickets notifying us of "some malicious mails going around". Well done, folks! In any case, stay vigilant and take care. Only click once you are sure. If you are in doubt, contact us at Computer.Security@cern.ch.

And keep in mind: we might run a similar campaign next year with some more sophisticated e-mail messages...

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

*The Computer Security Team*

# CERN AT G3ID: TACKLING UN'S SUSTAINABLE DEVELOPMENT GOALS



CERN representatives engaging with visitors of G3iD Solution Fair (Photo: Alan Dean/G3iD)

CERN attended the United Nations' Geneva Global Goals innovation Day (G3iD) to show how CERN tackles UN's Sustainable Development Goals.

The UN's 17 Sustainable Development Goals (SDGs) came into force in 2016, each one with specific targets to be met over the next 15 years to end poverty, protect the planet and ensure prosperity for all. These ambitious Goals are part of the 2030 Agenda for Sustainable Development, adopted by world leaders to transform our world.

By pursuing its core mission and fulfilling its current mandate, CERN is de-facto contributing to the implementation of five SDGs, namely 3, 4, 9, 16 and 17 (see here below). At the G3iD event CERN showed what the Organization is doing today to address these goals, and invited people to

suggest how it can contribute further to the SDGs.

CERN's contribution was a positive surprise for many participants, as the Organization's impact on society and undertaking in pursuing these global challenges are still not widely known to the public.

**SDG 3: Good health and well-being.** The technologies, know-how, and scientific advances behind high-energy physics have historically contributed to the field of medical and biomedical applications. Future developments at CERN will continue to help address global societal challenges in healthcare; within therapy, medical imaging, medical and biomedical research and technology.

**SDG 4: Quality education.** CERN aims to inspire the rising generation of new scientists, and contributes to making high quality skills available to its Member States through a diverse range of programmes for students, teachers and young researchers.

**SDG 9: Industry, innovation and infrastructure.** Reaching ambitious scientific objectives requires the development of new technologies, making CERN a driver of innovation. The CERN Knowledge Transfer group provides advice, support, training, network and infrastructure to ease the

transfer of CERN's know-how to industry and eventually society. In addition, nearly half of CERN's annual budget returns to industry, and contracts with CERN help industry drive their innovation.

**SDG 16: Peace, justice and strong institutions.** For more than 60 years, CERN has provided a framework for peaceful scientific collaboration. Moreover, CERN is an accountable and transparent institution, ensuring participatory and representative decision-making, as well as public access to information.

**SDG 17: Partnership for the goals.** CERN has become a model for global co-operation and has paved the way for other institutions combining scientific excellence with science diplomacy. At CERN, 16 000 scientists from over 110 nations work together, regardless of religious and political views.

Aiming to accelerate the achievement of the SDGs, the Geneva Global Goals innovation Day (G3iD) took place on March 24th in Geneva. G3iD's SDG Solutions Fair had over 60 organizations participating and was a place for showcasing and exploring solutions to SDG-related challenges.

*Afroditi Anastasaki, Barbora Bruant Gulejova, Tiago de Araujo, Victoria Emilie Isern, Olivier Martin, Ranveig Strom*

## CAS BEAM INJECTION, EXTRACTION AND TRANSFER IN ERICE, SICILY



The participants of the CERN Accelerator School (CAS) on Beam Injection, Extraction and Transfer (Image: Alessandro Noto/EMFCSC)

The intensive programme consisted of talks and case studies, as well as excursions to nearby sites.

The topics covered included: electromagnetism, relativity and the basics of beam dynamics, different injection and extraction schemes, special magnetic and electrostatic elements for the case of lepton and hadron beams, the technical layout of state-of-the-art kicker and septa designs, and the special features of resonant extraction, as used in machines for medical applications.

For the case studies, students were divided into small groups to complete a number of design tasks. This not only provided an opportunity for applying the theoretical knowledge to real-life problems, but also an opportunity to discuss the topic in detail with the lecturers and tutors. The students presented their results on the final afternoon of the school and thoroughly enjoyed these practical sessions, reflecting the high standard of this CAS.

The course was held at the Ettore Majorana Foundation and Center in Erice, and was attended by 72 participants of 25 nationalities, from countries as far away as

China, Iran, Russia and the United States. In addition to the academic programme, the students had the opportunity to take part in an all-day excursion to the Segesta and Selinunte temples, which was highly appreciated by all those who participated.

The next CAS course will be an Advanced Accelerator Physics course, to be held at the Royal Holloway University of London Campus, Egham, UK from 3 to 15 September 2017 and a Joint School on RF Technologies to be held in Hayama,

Kanagawa, Japan from 16 to 26 October 2017.

Further information on forthcoming CAS courses can be found on the CAS website (<https://www.cern.ch/schools/CAS>).

## A WEALTH OF PRECISE NEW RESULTS AT MORIOND



Moriond is the traditional winter meeting for particle physicists. (Image: Isabelle Cossin/CNRS)

The 52nd Rencontres de Moriond conference is taking place in La Thuile, Italy, from the 18 March to 1 April. The first week, which ran until 25 March, was devoted to the theme "Electroweak interactions and unified theories", and the second session is based on the theme of "QCD and high energy interaction".

The four main experiments at CERN have been presenting many fresh results, including the first ones with full statistics – that is, including the full 13 TeV dataset available so far. These latest results were able to benefit from the exceptional performance of the LHC and accelerator complex in 2016, which was far beyond expectations. The final integrated luminosity – indicating the cumulative number of potential collisions – totalled around  $40 \text{ fb}^{-1}$  each in ATLAS and CMS (whereas the target for the whole year was  $25 \text{ fb}^{-1}$ ). This represents the highest amount of data ever collected at any hadron collider in history. Moreover, thanks to an exceptional machine availability, and several new ideas and production techniques incorporated in the operation of LHC, the instantaneous peak luminosity topped out at around  $1.4 \times 10^{34} \text{ cm}^{-2}\text{s}^{-1}$ , 40% above the design value.

The 2016 has been the first full year of data-taking at a beam energy of 6.5 TeV, therefore the highest collision energy ever reached at a particle collider.

### ATLAS

The ATLAS collaboration has presented first results obtained with a new dataset that is almost three times larger than that available at the time of the last ICHEP conference, held in August 2016. This significant increase in data volume has enabled many searches for new physics beyond the Standard Model (SM) of particle physics. Among the key highlights were the results of searches for supersymmetric particles, which have now excluded particle masses reaching 2 TeV for the first time.

Searches for heavy particles decaying to "jets" of hadron particles probe the structure of quarks at energies never reached before, setting lower limits for their masses at 6 TeV. Searches for the rare Higgs boson decay to two muons, which test the fundamental SM prediction of different Higgs-boson-to-lepton couplings for different lepton generations, are now approaching the sensitivity required to observe a signal. Many results from precise measurements of the properties of the known SM particles were also shown, including the first measurement of the mass of the W boson with similar precision to the previous best result from a single experiment.

The measurement tests the SM via so-called virtual corrections through the interplay between the W boson, top-quark and Higgs-boson masses, all precisely measured by ATLAS. In both the cases of new particle searches and precision measurements, no significant deviations from SM predictions have been observed, allowing stringent constraints to be placed on theories of new physics.

### CMS

The CMS collaboration has presented more than 35 new results, most of which used the full 2016 dataset. The analysis of the Higgs boson decaying into four leptons or two photons channels has provided new measurements of total and differential

cross sections, which result in agreement with Standard Model expectations within current uncertainties. The four-lepton analysis also provides a new measurement of the Higgs mass, which is more precise than the current world average measurement from Run 1.

Searches for associated top-Higgs production in final states with multiple leptons have provided direct evidence for the existence of a top quark-Higgs coupling, and the measured signal strength is consistent with standard model expectations.

The measurement of the angular coefficient  $P_5'$  in the flavor-changing neutral current decay of B mesons is in agreement with theoretical predictions and compatible with previous LHCb results of a similar study. The first measurement of the top-quark mass and an updated measurement of the ZZ total and differential cross sections with full Run 2 statistics were also presented. CMS has also released more than twenty direct searches for new physics using the full 2016 data sample. The search for electro-weakly interacting supersymmetric particles in final states containing multiple leptons, for the first time, probes masses beyond 1 TeV.

The exotic searches have also provided stringent new limits on many scenarios including dark matter, new types of quarks, vector bosons and gravitons.

### LHCb

The LHCb collaboration presented several important new results. Besides an update of the measurement of the rarest decay of a particle containing a b quark ever observed, and the exceptional observation of a new system of five particles all in a single analysis, the LHCb collaboration presented the most precise single measurement of the CP-violating phase  $\delta$  which sets the scale for the difference between properties of matter and antimatter for particles made

up of b and s quarks, known as Bs mesons, using the full Run 1 data set.

Furthermore, the results of an unprecedented study were shown for the first time: collisions between protons and helium nuclei injected near the interaction points were exploited to measure the production rate of antiprotons, providing an important input to searches for dark-matter signals in space.

ALICE

The ALICE collaboration has presented recent results from large samples of proton-proton (p-p), lead-lead (Pb-Pb), and proton-lead (p-Pb) collisions collected in 2015 and 2016. One of the new results concerns the azimuthal asymmetry of the production of J/Psi mesons: the results show conclusively that heavy quarks directly "feel" the shape and size of the interaction region of nucleus-nucleus collisions where an asymmetric quark-gluon plasma medium – mostly made of light quarks and gluons – is produced.

Also, ALICE has shown results on the azimuthal distributions of pions, kaons, protons, and phi mesons in Pb-Pb collisions, which allow to determine the pressure and density in the quark gluon plasma. In addition, several results were presented on the multiplicity dependence of particle production showing that some of the effects that are attributed to quark-gluon plasma formation in Pb-Pb collisions are also seen in high-multiplicity p-p collisions. This result represents a tantalising hint that a quark-gluon plasma may even occasionally be formed in collisions of protons.

## Announcements

### CLOSURE OF ROAD RUTHERFORD BETWEEN BUILDINGS 361 AND 271

Due to works, half of Road Rutherford, between building 361 and building 271, will be closed to traffic until Friday 28 April at 5.30

pm. Traffic lights manage the alternating traffic.

Thank you for your understanding.

*SMB Department*

### MANAGEMENT OF MEETING ROOMS RESERVATION

To INDICO users,

To meeting and conference rooms managers,

Following the recurrent problems of availability of meeting rooms highlighted by several users, the Finance and Human Resources Director (FHR) has mandated the Space Manager Forum (SMF) to study and propose improvements of the reservations management system in order to answer to the increase of needs.

After studying the statistics of meeting and conference rooms' occupation rate all over CERN, some recommendations have been formulated by the SMF and approved by the Management. As a result, the following measures will be implemented before the end of April 2017, particularly:

- all the meeting rooms, without any exception, shall appear in INDICO and the booking can only be done through this system ;

- any user will be able to book or pre-book a room with no restriction; the "allowed groups" will be removed ;
- in order to optimize the rooms' use, a booking reminder for the future reservations will be sent to the requester and the final user of the room, to easily cancel the reservation if not necessary anymore;
- all bookings will be limited to 1 year (except for special major events);
- a simple and practical guide on the use of INDICO will be available on line in bookings web site ;

With this in mind, the "moderator's" role (room manager or e-group having all the rights on the reservations) has been clarified.

For all the rooms without pre-booking, the requests are automatically accepted by the system. If a request actives a pre-booking, this shall be accepted in principle in a relatively short delay by the moderator, or managed in order to optimize the room us-

age. In both cases, with pre-booking or not, the moderator shall intervene in case of non-solved conflicts between the parties. Moreover, the moderator will have the rights to make the bookings that she/he judges useful following the needs of her/his service.

We are glad to inform you that significant work is being done to update INDICO by the IT Department in order to make it more user-friendly, quicker and even more effective.

For any further information, the space managers of your respective departments are at your disposal.

We appreciate your comprehension and collaboration.

*Cristiana Colloca*

*Chairperson of the Space Management Forum (SMF)*

## 12 APRIL: PERMANENT CLOSURE OF THE FLAGS CAR PARK

From 12 April, the Flags Car Park will be permanently closed due to the start of work on the *Esplanade des Particules*\*. **This work will begin on 18 April and will last for a period of 16 months.**

Drivers are invited to use the Globe Car Park as of 12 April.

**The Flags Car Park must be clear of all vehicles by 12 April at the latest .**

**Impact of the work on transport:**

- The Route de Meyrin will remain open (the traffic lanes will be diverted-see the plan below).
- Public transport (bus Y and tram 18) will continue to operate as normal.
- CERN's entrances will remain accessible.
- CERN car sharing parking for 3 vehicles next to building 33 will be

moved to the Globe parking (3 dedicated parking spaces).

- The building 33 CERN shuttle bus stop will be moved to next to Entrance A.

SMB Department

Although everything possible will be done to reduce the inconvenience caused by the work, the flow of traffic between Entrance A and Entrance B could be affected.

**Traffic diversion during the first phase, between 20 April and 28 July 2017.**

For more information about the progress of the work, visit the dedicated page (<http://cern.ch/voisins/esplanade-des-particules>) about the *Esplanade des Particules* on the "CERN and its neighbours" website.

Thank you for your co-operation.

**\*The Esplanade des Particules**

*The Esplanade des Particules is a public space comprising several key features:*

- *The current Flags Car Park will be replaced by a pedestrianised area that will extend as far as the Globe.*
- *A forest of national flags, symbolising CERN's international collaboration, will cross the Route de Meyrin to link CERN's main site with the Globe.*
- *A large number of covered bike racks will be constructed.*
- *The Route de Meyrin will continue to serve road traffic but the speed limit will be reduced to 50 km/h at the point where it crosses through the public space.*

## 12TH CERN-FERMILAB HCPSS

CERN, Monday 28 August – Wednesday 6 September 2017

**The deadline for applications and reference letters is 15 April 2017**

The CERN-Fermilab Hadron Collider Physics Summer School is an advanced school targeted particularly at young post-docs and senior PhD students working

towards the completion of their thesis project, in both experimental HEP and phenomenology.

**Calendar and Details:**

Mark your calendar for 28 August – 6 September 2017, when CERN will welcome accepted students to the 12th joint CERN-Fermilab Hadron Collider Physics

Summer School. The School will include ten days of lectures and discussions, with one free day in the middle of the period.

Very limited scholarship funds will be available to support some participants.

Updates, application procedures and more details are available at the web site: <http://cern.ch/hcpss>.

## 3 APRIL-5 MAY: ROAD CLOSURE-BUILDING 2252

Due to works between the building 2252 and the gallery SL23 at Point 2 of the LHC, the road between these two buildings will be closed to traffic (see map).

This closure will be effective from Monday 3 April at 7 a.m. to Friday 5 May at 5 p.m. (5 weeks).

Thank you for your understanding.

SMB Department

# Ombud's corner

## ACCELERATING GENDER EQUALITY

When I started working at CERN in 1976, women were a relatively rare sight. The few women who did work here generally held administrative roles, many having started with the incongruous job title of "scanning girls", regardless of the age at which they had been recruited. Back then it was quite normal to walk into a workshop and find pictures of naked females on the walls, and everyday sexism was common. I recall once being told that women couldn't possibly do night shifts in the control room. The reason, a male colleague explained, was to avoid mysterious calls in the middle of the night: "What if there was a problem and she has to call a physicist? What would his wife think?"

Such attitudes were not just true of CERN, of course, and things have changed significantly since then. Even as recently as 1995, less than three per cent of CERN research and applied physicists were female, whereas today that number is around 18 per cent. Similar increases have been seen across engineering and technician roles, and CERN now has its first female Director-General.

It was in 1996 that CERN launched its equal opportunities (EO) programme. I was appointed as the first EO officer, and the following year an EO advisory panel was created. Many a meeting was taken up by educating male colleagues about the lasting effects of sexist behaviour through the personal experiences of their female counterparts. The EO programme adopted a four-pronged strategy focusing on recruitment, career development, work environment and harassment. On recruitment we

took a firm stand against quotas, recommending instead thorough monitoring that would ensure reasonable proportions of qualified women were shortlisted for interview.

Equitable recruitment practices that we take for granted today were then the subject of much debate. The multicultural nature of CERN brought added complexity, as people's notions of acceptable behaviour varied greatly. We were often accused of exaggerating the need for gender-neutral language or reproached for no longer having a sense of humour. Although some women colleagues found themselves in the uncomfortable situation of wishing to support EO initiatives while not wishing to risk the perception of tokenism or positive discrimination, many became vital allies in moving the EO agenda forward. Whether it was a question of work-life balance or simply accepting women in all job categories, a great deal of effort was invested to overcome resistance born of years of habit. It has only been over time that the proportion of female scientists at CERN has risen to match the numbers in society, as reflected by our world-wide user community.

CERN's EO programme itself has also evolved into today's diversity programme, which was launched in 2010 together with a newly created ombudsman function and a formal harassment investigation panel. The CERN code of conduct was also produced at this time. The growing numbers of female colleagues in all fields at CERN is living proof that we have come a long way in the last two decades. But gender equality means more than just gen-

der parity. While continuing our efforts to encourage female students to pursue science and to employ our colleagues through equitable recruitment practices, we should ask if we are doing everything possible to promote a mindset that enables all our colleagues to contribute as equals.

The last six years have seen approximately equal numbers of male and female visitors to the ombud office. However, when mapped against the corresponding staff-member populations, there are proportionally three-to-four times more women than men consulting the ombudsman. A similar pattern is seen in other international organisations where women are a minority, and is mirrored by the proportionally higher number of females who participate in CERN's "diversity in action" workshops. Although the issues raised by women are essentially the same as those faced by their male colleagues, a closer examination reveals examples of stereotyping and unconscious bias that suggests ours is not yet a completely level playing field.

Not only is it difficult for the majority to recognise the insidious barriers of organisational culture faced by minority groups, it is sometimes equally difficult for those within the minority to bring these aspects to light. If we are to ensure that our work environment is equally supportive to all, the experience of women needs to be shared with a wider audience including their male colleagues. We all need to join forces to assure CERN's ongoing commitment to diversity.

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