MoEDAL - the LHC experiment designed to search for highly ionising avatars of new physics, such as magnetic monopoles or massive pseudo-stable charged particles - has collected data from p-p and Pb-Pb collisions at high energy. A unique feature of the experiment is its membership, which includes a high school.

MoEDAL's physics programme is investigating more than 34 scenarios that could yield potentially revolutionary insights into such fundamental questions as: are there extra dimensions or new symmetries? Where does the mechanism for the generation of mass originate from? Does magnetic charge exist? What is the nature of dark matter? How did the Big Bang develop?

MoEDAL employs a number of unconventional methodologies, specially tuned to the prospect of discovery physics. The largely passive MoEDAL detector, deployed at Point 8 on the LHC ring, works in two ways. First, it acts like a giant camera, comprised of nuclear track detectors - analysed offline by ultra-fast scanning microscopes - sensitive only to new physics. Second, it is uniquely able to trap highly ionising particle messengers of physics beyond the Standard Model - for example, the magnetic monopole - for further study. Last but not least, MoEDAL's radiation environment is monitored by a state-of-the-art real-time TimePix pixel detector array.

MoEDAL's sensitivity is complementary to that of the other LHC detectors, extending the discovery horizon of the LHC using detectors that are insensitive to all Standard Model particles and immune to a background of fake signals. Importantly, MoEDAL is the full MoEDAL detector was installed in the winter of 2014 and started to take data officially in the spring of 2015. "In parallel to completing the installation of our detectors, we are analysing the first data from 2012 taken by test detectors, which were exposed to proton-proton and heavy-ion collisions," says James Pinfold, physicist from the University of Alberta and the Spokesperson for the MoEDAL collaboration. "Our first physics result paper, based on data taken with a prototype trapping detector deployed for 8 TeV centre-of-mass energy collisions, is in its final stages of preparation. We now have our first year of proton-proton data taken at 13 TeV and Pb-Pb collisions and we look forward to the restart of the LHC in March."

The Chamonix workshop: a key point in the CERN calendar

Last week I attended the annual LHC performance workshop in Chamonix. This meeting is an essential part of the CERN calendar, allowing colleagues from the accelerator community, along with representatives of the experiments and of other sectors and departments, to take stock of the accelerators' performance in the year gone by, and set the direction for the year to come.
**A WORD FROM THE DIRECTOR-GENERAL**

**THE CHAMONIX WORKSHOP: A KEY POINT IN THE CERN CALENDAR**

This year’s discussions were as lively, constructive and stimulating as they remember them to have been from the period of Run 2, when I attended several Chamonix workshops as ATLAS Spokesperson. Sessions covered everything from lessons learned in 2015, to operational improvements and plans for 2016, along with the status of the LHC injectors upgrade (LIU) and High Luminosity LHC projects. The broad conclusions are that in 2015 a large number of complex problems and subtle issues were successfully addressed, and 2016 will be a year of luminosity production: delivering large quantities of data to the experiments. The instantaneous luminosity in ATLAS and CMS should reach the design value of 10^34 cm^-2 s^-1 this year, thanks mainly to more squeezed colliding beams and a larger number of circulating bunches, and the integrated luminosity delivered to each should approach 30 fb^-1.

For me personally, Chamonix workshops are always a very stimulating experience, a source of learning, the occasion of fruitful discussions with many colleagues, and an injection of energy and enthusiasm for the months to come.

A full report can be found on: http://cern.ch/go/299K, and for those who’re interested in more details, there’s a summary session on 3 March in the main auditorium from 14:00 to 17:00 (see here: http://cern.ch/go/XLB4).

**FIRST YEAR OF DATA TAKING AT HIGH ENERGY FOR MOEDAL**

![Members of the MoEDAL experiment at the Royal Society Summer Exhibition ‘Ask Me’ on the first scale. From left to right: Anna Rhymer (Imperial College London); Edward Gilman (Imperial College London); Walid Saadatbafou (King’s College London); James Pinfield (University of Alberta); Anna Evans (Simon Langton School); Carlisle Cooke (Simon Langton School) and Becky Parker (Simon Langton School). (Photo: MoEDAL Collaboration.)](Image)

The MoEDAL collaboration has tripled in size since its final approval in 2010 and now includes 66 physics groups from over 20 institutes on four continents. Alongside established research institutes and universities, the collaboration can also count on the unique contribution of some 20 students from the Simon Langton Grammar School in the UK. “The Langton School students are renowned for their expertise with the TimePix detector, which is one of the key detectors of our apparatus,” confirms Pinfield.

In 2015, the Royal Society of London chose to feature CERN’s MoEDAL experiment and its “Monopole Quest” at its Summer Science Exhibition. “Visitors took part in a number of activities,” recalls Pinfield. “They could design their own monopole detector; take part in the Citizen Science project to search online for monopole tracks in exposed MoEDAL plastic nuclear track detectors; and test MoEDAL trapping volumes for captured monopoles. In addition, thanks to an app developed by the students of the Langton School, they could visualise a Dirac monopole and investigate radioactivity on their cell phones using a MoEDAL TimePix Chip.” A truly amazing experience for the thousands of people who visited the exhibit!

**LATEST NEWS FROM THE YETS: KEEPING UP THE PACE**

As we explained in the last edition of the Bulletin, the winter technical stop (otherwise known as the YETS – Year-End Technical Stop) is setting a huge number of experts to work on all of the Laboratory’s accelerators. For the time being, the various maintenance and improvement activities are all on schedule.

2400 cables have been disconnected and are ready for removal, 400 more are still being analysed, and 66 turned out to still be in use, which underlines the importance of the identification work. Consolidation work is also going well and will soon be completed. Due to an unexpected leak in its vacuum chamber, the BH062 magnet has been replaced after 20 years of service.

**CHAMONIX 2016: SETTING THE FUTURE COURSE FOR THE LHC AND THE ACCELERATOR COMPLEX**

The LHC Performance Workshop took place in Chamonix between Tuesday, 25 and Thursday, 28 January. The programme included a review of the machine’s performance in 2015, a forward look at Run 2, and discussion of the status of the LHC injectors upgrade (LIU) and HL-LHC projects. The final session was dedicated to the 2019-2020 long shutdown (LS2). The 2016 LHC Performance Workshop participants.

Last year was the first year of operations following the major maintenance work of the 2013 – 2014 long shutdown (LS1). It was a tough but ultimately successful year. An analysis of operations and efficiency was performed with the aim of identifying possible improvements for 2016. The performance of key systems – e.g. machine protection, collimation, IR, transverse damper, magnetic circuits and beam diagnostics – has been good but nonetheless efforts are still being made to provide, for example, better reliability, improved functionality and monitoring.

A number of challenges also arose in 2015 – some familiar, some new – and these were covered by dedicated talks. The list
CERN AND THE ENVIRONMENT

New webpages answer common questions about CERN and the environment.

The overview examines consolidation work and the performance of all key systems. Possible areas for improvement in the short and medium term were identified.

The LIU project aims to improve the LHC injectors in order to deliver the extremely ambitious beams required for the HL-LHC. The deployment of LIU is scheduled to take place during LS2 and will consist of an impressive and extensive upgrade programme for the Booster, the PS and the SPS, as well as the completion of Linac4. Additionally, the LIU team is also planning upgrades of Linac3, LEBR, PS and SPS for the ion runs.

An in-depth survey of the potential performance limitations of the HL-LHC and ways to mitigate them were discussed. Electron cloud will remain an issue; a number of measures were proposed, including in-situ amorphous carbon coating and in-situ Laser-Engineered Surface Structures (LESS) to address electron cloud in the magnets of the insertion regions.

Key upgrades to the collimation systems and the radiofrequency (RF) cavities are also required. The preparation for an installation of novel crab cavities in the SPS is well under way. This will allow their performance to be tested with protons before the concept is used in the LHC.

Ions will be an integral part of the HL-LHC programme and the means to deliver the required beams and luminosity are taking shape. The recent successful Pb-Pb run at 5.02 TeV centre-of-mass energy per colliding nucleon pair and the quench tests performed during the same run have provided very useful input.

The planning for LS2 is already under way. Aside from the LIU implementation discussed above, ALICE and LHCb will perform major upgrades of their detectors and read-out systems. An impressive amount of consolidation work is foreseen across the complex. One particularly noteworthy aspect is the significant maintenance and consolidation work planned by the non-LHC experiment facilities.

The overheads involved in carrying out an installation of measures were proposed, including in-situ amorphous carbon coating and in-situ Laser-Engineered Surface Structures (LESS) to address electron cloud in the magnets of the insertion regions.

The President of the Republic of Lithuania, Dalia Grybauskaitė, visited CERN. The Lithuanian delegation had a busy morning, visiting several of CERN’s facilities.

The tour of the Laboratory started at Point 5, where the President and her delegation were welcomed by Director-General Fabiola Gianotti, who gave a general introduction to CERN’s activities. This was followed by a presentation of the work at Point 5 by CMS Deputy Spokesperson Kerstin Borras, and a meeting with users from Lithuania working at CMS. The President also enjoyed an introduction to life at CERN during her lunch in the cafeteria.

In the afternoon, the delegation stopped off at the Data Centre, where they heard a presentation on the Worldwide LHC Computing Grid by Jamie Shiels, the IT Department’s Data Preservation Project Leader. The President also had the chance to see the robotic arms in the Data Centre’s automated libraries.

At the end of the visit, the President took part in experiments at S’Cool Lab and participated in a virtual tour with high-school classes connected remotely from Lithuania.

With no previous experience in electronics or coding, groups of students from Portugal, Italy, Norway and Estonia were introduced to the basics of sensors, integrated circuits and actuators, and after just 96 hours they presented their functioning robots at IdeaSquare on Friday, 15 January.

These robots, mostly built around Arduino boards and recycled materials, were able to display different human emotions as a response to external environmental inputs. The five-day workshop, called 08bot, was organised by the IdeaSquare team in collaboration with Porto Design Factory and the Stanford global product-design project ME310, as part of IdeaSquare’s research into multidisciplinary collaboration and education.

The prototypes are meant to be just an intermediate step to develop essential prototyping skills: most of the participants will continue developing their actual projects in advance of the final presentations scheduled for early June 2016 in Stanford.

Mike Lamont

CERN Bulletin

One of the new public webpages dedicated to CERN and the environment.

Clean Air and Water

Do your neighbours ever ask you about CERN’s environmental impact? And about radiation in particular? If so, the answers to those questions can now be found online on a new set of public webpages dedicated to CERN and the environment. These pages, put together by the Occupational Health, Safety and Environmental Protection (HSE) unit and the groups responsible for CERN’s site maintenance, contain a wealth of information on topics linked to the environment, such as biodiversity at CERN, waste management, ionising radiation, and water and electricity consumption.

“CERN forms part of the local landscape, with its numerous sites and scientific activities. It’s understandable that people living nearby have questions about the impact of these activities and it’s important that we respond with complete transparency,” explains Simon Bärd, head of the HSE unit.

The new environment pages can be found on the “CERN and its neighbours” website in English and French (http://cern.ch/go/Cp8p).

Corinne Pradovitch

VISIT OF THE PRESIDENT OF THE REPUBLIC OF LITHUANIA

On Wednesday, 20 January 2016, Her Excellency Dr Dalia Grybauskaitė, President of the Republic of Lithuania, visited CERN. The Lithuanian delegation had a busy morning, visiting several of CERN’s facilities.

With no previous experience in electronics or coding, groups of students from Portugal, Italy, Norway and Estonia were introduced to the basics of sensors, integrated circuits and actuators, and after just 96 hours they presented their functioning robots at IdeaSquare on Friday, 15 January.

These robots, mostly built around Arduino boards and recycled materials, were able to display different human emotions as a response to external environmental inputs. The five-day workshop, called 08bot, was organised by the IdeaSquare team in collaboration with Porto Design Factory and the Stanford global product-design project ME310, as part of IdeaSquare’s research into multidisciplinary collaboration and education.

The prototypes are meant to be just an intermediate step to develop essential prototyping skills: most of the participants will continue developing their actual projects in advance of the final presentations scheduled for early June 2016 in Stanford.

Mike Lamont

CERN Bulletin

One of the new public webpages dedicated to CERN and the environment.

Clean Air and Water

Do your neighbours ever ask you about CERN’s environmental impact? And about radiation in particular? If so, the answers to those questions can now be found online on a new set of public webpages dedicated to CERN and the environment. These pages, put together by the Occupational Health, Safety and Environmental Protection (HSE) unit and the groups responsible for CERN’s site maintenance, contain a wealth of information on topics linked to the environment, such as biodiversity at CERN, waste management, ionising radiation, and water and electricity consumption.

“CERN forms part of the local landscape, with its numerous sites and scientific activities. It’s understandable that people living nearby have questions about the impact of these activities and it’s important that we respond with complete transparency,” explains Simon Bärd, head of the HSE unit.

The new environment pages can be found on the “CERN and its neighbours” website in English and French (http://cern.ch/go/Cp8p).

Corinne Pradovitch

VISIT OF THE PRESIDENT OF THE REPUBLIC OF LITHUANIA

On Wednesday, 20 January 2016, Her Excellency Dr Dalia Grybauskaitė, President of the Republic of Lithuania, visited CERN. The Lithuanian delegation had a busy morning, visiting several of CERN’s facilities.

With no previous experience in electronics or coding, groups of students from Portugal, Italy, Norway and Estonia were introduced to the basics of sensors, integrated circuits and actuators, and after just 96 hours they presented their functioning robots at IdeaSquare on Friday, 15 January.

These robots, mostly built around Arduino boards and recycled materials, were able to display different human emotions as a response to external environmental inputs. The five-day workshop, called 08bot, was organised by the IdeaSquare team in collaboration with Porto Design Factory and the Stanford global product-design project ME310, as part of IdeaSquare’s research into multidisciplinary collaboration and education.

The prototypes are meant to be just an intermediate step to develop essential prototyping skills: most of the participants will continue developing their actual projects in advance of the final presentations scheduled for early June 2016 in Stanford.

Mike Lamont

CERN Bulletin

One of the new public webpages dedicated to CERN and the environment.

Clean Air and Water

Do your neighbours ever ask you about CERN’s environmental impact? And about radiation in particular? If so, the answers to those questions can now be found online on a new set of public webpages dedicated to CERN and the environment. These pages, put together by the Occupational Health, Safety and Environmental Protection (HSE) unit and the groups responsible for CERN’s site maintenance, contain a wealth of information on topics linked to the environment, such as biodiversity at CERN, waste management, ionising radiation, and water and electricity consumption.

“CERN forms part of the local landscape, with its numerous sites and scientific activities. It’s understandable that people living nearby have questions about the impact of these activities and it’s important that we respond with complete transparency,” explains Simon Bärd, head of the HSE unit.

The new environment pages can be found on the “CERN and its neighbours” website in English and French (http://cern.ch/go/Cp8p).

Corinne Pradovitch
PRIME MINISTER OF PAKISTAN VISITS CERN

On Saturday, 23 January 2016, CERN welcomed Mr Muhammad Nawaz Sharif, Prime Minister of Pakistan.

Mr Muhammad Nawaz Sharif arrived at Point 5 in Cessy, where he was welcomed onto French soil by the sous-préfet of Cessy, Stéphane Donnot, and, representing CERN, Director-General Fabiola Gianotti, Directors Eckhard Voss and Charlotte Waraakia, and Rüdiger Voß, the adviser for relations with Pakistan. It was the first visit by a head of government of Pakistan since the country became CERN’s latest Associate Member State in 2015. The Prime Minister then had the opportunity to visit the CMS underground experimental area accompanied by the CMS Spokesperson, Tiziano Camporesi, and the CMS collaboration’s National Contact Physicist for Pakistan, Hafeez Hoorani.

At the end of his visit, the Prime Minister took the time to sign CERN’s guest book and to meet with a number of Pakistanis collaborating with CERN.

Anas Schaeffer

YEAR-END TECHNICAL STOP: TRAIN TO WORK SAFELY

As mentioned in the previous issue of the Bulletin, the accelerators are currently undergoing maintenance as part of the year-end technical stop (YETS). Hundreds of people are working simultaneously on different machines, and many of them need to be trained in order to work safely underground. From a Safety Training point of view, this has resulted in a significant increase in training requests, most of them at the last minute, which are now being handled – but not without difficulties.

“The most requested course is the Self-Rescue Mask classroom training,” explains Christoph Balle, Safety Training Section Leader. “In this course, people are trained to face the oxygen deficiency hazards that may occur in CERN’s underground areas, learning how to put on the mask correctly and how to evacuate safely in the event of an emergency.” Being able to use the mask is mandatory in the underground areas of the LHC complex (SPS, LHC tunnel, experiments, etc.), so people going underground must have followed either the “Initial” (valid for three years) or the “Refresher” course in order to gain access.

“We kindly ask project leaders, supervisors, work coordinators and individuals to anticipate access needs, and therefore their training requests, as early as possible, ideally at least a month in advance,” says Christoph. This will allow the Safety Training section to meet the increasing training needs for the YETS, and to manage their future training course offerings more efficiently.

The trainer really focus on the practical part of the course. “This ensures that people are well-trained and will be able to respond appropriately to emergencies and stressful situations,” continues Christoph. “As we want to guarantee the same level of training for all of our trainees, we can’t increase the number of people allowed per session. Thus, in order to cope with the recent high demand, we instead have to increase the number of sessions per week from the usual two to five.”

“For our point of view, this can make it difficult to handle last-minute requests, as there is important – and often underestimated – work that has to be done in order to organise, manage and guarantee the quality of each and every session,” says Christoph. Course coordinators have to book rooms, make sure technicians are available on the training site, check the availability of the trainers, and send invitations to the attendees – for every session.

“I would like to stress that all of our internal trainers – 20 for the Self-Rescue Mask course – are volunteers,” says Christoph. “They can’t be replaced by external personnel due to CERN-specific safety issues. They know the subject very well, as they often work under the same conditions for which they train people. I would like to thank all of them for their commitment, professionalism, flexibility and availability even at very short notice.”

“‘To conclude on a lighter note,’ says Christoph, ‘I’d like to mention that we recently celebrated the 100th session led by Aniello Russo – one of our Self-Rescue Mask trainers. We are proud of such commitment and we’re looking forward to celebrating the next trainer’s 100th session.”

Rosario Mannoni

Computer Security

TRANSPARENT MONITORING FOR YOUR PROTECTION

Computer security can be handled in one of two ways: in secrecy, behind a black curtain; or out in the open, subject to scrutiny and with full transparency. We believe that the latter is the only right way for CERN, and have always put that belief into practice. In keeping with this spirit, here is a reminder of how we monitor (your) CERN activities in order to guarantee timely responses to computer security incidents.

We monitor all network traffic coming into and going out of CERN. Automatic tools look for suspicious patterns like connections to known malicious IP addresses, web pages or domains. They check for malicious files being downloaded and make statistical analyses of connections in order to identify unusual behaviour. The automatic analysis of the logs from the CERN Domain Name Servers complements this and provides a redundant means of detection.

We also constantly scan the CERN office network and keep an inventory of the individual network services running on each device: web servers, SSH clients, etc. The antivirus software installed on centrally-managed Windows computers provides our virus experts with alerts in the event of malicious or suspicious activity being discovered. For similar purposes, all e-mails into or out of CERN are automatically scanned by the Microsoft spam filters. Statistical tools identify mail accounts that send spam – it is only in very rare cases that people manage to send more than 3000 legitimate e-mails a day.

We monitor your logins, whether they are using SSH or the CERN Single Sign-On portal (login.cern.ch). If the origin of the login is unusual in our eyes (and bear with us if it is not unusual for you), we automatically notify you and ask you to check. We also automatically inspect all activities on our central computing clusters, including commands and parameters typed, network traffic and connections, manipulations to the kernel or installed software, etc. Finally, we monitor external feeds which, depending on their nature, report on compromised or vulnerable webpages, publish stolen password files, etc. Google Alerts helps us with that, too.

Most of these data sources are fed into a single analysis framework. Our raw analysis infrastructure will be able to cope with the automatic live analysis of about one terabyte of data every day. If your account/webpage/device appears to be compromised or negatively affected, you will get an automatic notification. Let’s hope that you never do! For later use (e.g. for forensics purposes), all this data is stored for one year and then purged. Access is restricted to the CERN Computer Security Team only.

However, rest assured that the Computer Security Team has no right to “just” look at your activities for fun. Our accesses is governed by the CERN Computing Rules (OC5). Direct access to your mailbox or to your private files stored on CERN’s file systems is strongly regulated by the CERN Data Protection Policy (in draft) and its subsidiary policy and requires official authorisation by the Director-General. Any violation is considered to be professional misconduct and will result in dismissal.

For further information, questions or help, check: https://security.web.cern.ch or contact us at Computer.Security@cern.ch.

Do you want to learn more about computer security incidents and issues at CERN? Follow our Monthly Report: https://security.web.cern.ch/security/reports/en/.

Stefan Lueders, Computer Security Team

Computer Security
SOWING THE SEEDS OF TRUST… CONTINUED

Are you able to assign tasks to your staff and then let them get on with them… or do you tend to hover over them to check on their progress? Observing and controlling supervisors too closely can be counterproductive, as it is often perceived as micromanagement and results in stifling employee decision-making, leaving them with the feeling that their manager does not trust them.

Susan has just accepted a new position. Very quickly, she realises that Philip, her supervisor, constantly has his eye on her—observing what she does and how she does things, regularly correcting tiny details in her work and intervening with stakeholders before she has a chance to address them herself. She learns from team members that he had been in charge of her activity before his promotion. Despite being herself a recognised expert in the field, she begins to doubt her own choices and becomes timid and tentative in her work, even hesitating to take the actions that she knew had been successful in the past.

When a colleague takes over an activity from you, it is quite natural to find yourself comparing their style to your own and there is a risk that you will want to step in and do the job yourself at the first minor hiccup. It is absolutely critical, however, that you do not give in to this temptation, as this would amount to disempowering your colleague, by undermining their self-confidence and ultimately leading to a deterioration in performance. As a supervisor, moreover, you will not be able to carry out your own management responsibilities if you are constantly immersed in the technical details of each individual task, nor will you be able to develop the healthy relationships that are crucial to staff motivation and development.

Susan feels that Philip does not respect her expertise and judgement. She believes that ‘no matter what she does, it will be wrong’ and, as a result, she starts to feel paralysed and inadequate. She becomes afraid of taking initiative without turning to him for guidance.

Philip interprets this as proof that she needs to be constantly supervised and grows more and more convinced that Susan is not up to the job. They are trapped in a vicious circle of mutual mistrust.

What can you do, as a supervisor, to break out of this kind of vicious circle and sow the seeds of trust that your team members need in order to excel?

First of all, it is important to look in the mirror once again and understand what may have been the reasons that led you to micromanage your staff, albeit with the best of intentions. Is this due to a lack of confidence in the competence of your staff, a fear of losing control, a lack of experience in the art of delegation or your own feelings of insecurity? Once acknowledged, you can take a few simple steps to remedy the situation, such as proposing training for your colleague if appropriate or agreeing on a work plan that allows them to work independently while ensuring also regular checkpoints to keep you informed. A more challenging but crucial step may be in recognising shortcomings in yourself and, if that is what your mirror tells you, you should not hesitate to request some coaching or support in order to move out of your comfort zone as a hands-on technical contributor and assume the oversight role expected of a manager.

All previous Ombud’s Corners can be accessed in the Ombud’s blog: http://cern.ch/go/p9ZS.

Sudeshna Datta-Cockerill

PIERRE CHARRUE (1961 - 2016)

Our friend and colleague Pierre is no longer with us. In corridors, around meeting tables, at coffee places, we gather and talk about him, about how great it was to have met him, and what a special person he was.

In meetings, his levelheadedness and clear, honest comments were much appreciated by us all. He had the gift of giving real meaning to situations, always with a smile and clarity and that was all he expected back from others.

When he organized team building outings in the mountains, and orienteering events, his goal was always to find the correct path in the best of humour.

He probably did not realize how much he helped many of us choose good paths in life, merely by following his example. We all miss him dreadfully but endeavor to remember all that he has taught us through his good sense and contagious smile. Rest in peace, dear Pierre, you will always be in our hearts and minds.

His colleagues and friends

The Director-General has sent a message of condolence to his family on behalf of the CERN personnel. He probably did not realize how much he helped many of us choose good paths in life, merely by following his example. We all miss him dreadfully but endeavor to remember all that he has taught us through his good sense and contagious smile. Rest in peace, dear Pierre, you will always be in our hearts and minds.

His colleagues and friends

The Director-General has sent a message of condolence to his family on behalf of the CERN personnel.

Social Affairs
Human Resources department

LABVIEW WORKSHOPS 2016: A FREE AND FUN WAY TO LEARN A NEW PROGRAMMING LANGUAGE

We are organising about 5 workshops (1 day per week - 2 hours after work) at CERN in the following months, particularly aimed at CERN people (especially technical students).

The courses will start with the basics of LabVIEW. During the course, which is based on official National Instruments (NI) training materials, we’ll learn together how to program in LabVIEW and how to interface with NI hardware. Depending on the participants’ needs and requests, the topics of FPGA and Real-Time could also be explored. The course ends with the CLAD certificate exam. The course and materials are in English.

What is LabVIEW? A highly productive development environment for creating custom applications, allowing users to code in a single language for devices ranging from FPGA, through RT systems to PCs. The software is used at CERN, but not everybody has had the opportunity to work with it. Now could be a good time for you to start.

Target audience: For students and anyone else interested.

Pre-requisites: No experience required, but a bit of programming awareness is recommended.

If you are interested: Register on: http://cern.ch/go/q7T9 More info on: http://cern.ch/go/qf8v Questions: patryk.oleniuk@cern.ch

Organisers: Patryk Oleniuk, LabVIEW Student Ambassador, (CERN, TE-EPC), assisted by Isabella Horvath (CERN, TE-MPC), Michal Maciejewski (CERN, TE-MPC) and CERN’s LabVIEW support team.

All courses are free – we offer them because we’re considered as professional NI training. Please refer to the Technical Training catalogue (cta. cern.ch) for all formal LabVIEW training courses available.

SAFETY TRAINING: PLACES AVAILABLE IN FEBRUARY 2016

There are places available in some Safety courses. For updates and registrations, please refer to the Safety Training Catalogue (http://cern.ch/go/z6gQ).
REGISTRATION OF VEHICLES AT THE GEX-SOUS-PREFECTURE: NOW BY APPOINTMENT ONLY

The Gex sous-préfecture has informed CERN that it has taken the following steps in order to reduce waiting times at its counters for the issue of carte grise vehicle registration certificates. As of 1 February 2016, you must book an appointment via the website http://certificates. As of 1 February 2016, you must book an appointment via the website http://www.edf.ain.gouv.fr/ for all services relating to the registration of vehicles, in particular:

- change of the holder of a registration certificate,
- issue of a certificat de situation administrative (administrative status certificate required for the sale of a vehicle),
- change of marital status (or company name in the case of legal entities),
- change of address,
- change in the technical specification of the vehicle,
- corrections to registration certificates,
- requests for duplicates (loss or theft of registration certificates),
- registration of a diplomatic vehicle (CEB),
- registration of a new vehicle,
- registration of vehicles purchased tax-free in the Pays de Gex free zone (formerly TTW series), and
- import of vehicles (from within the EU, from Switzerland, from outside the EU).

Further information about these services can be obtained by sending an e-mail to pref-cartesgrises-gex@ain.gouv.fr or by calling +33 4 50 41 51 51 on Mondays and Tuesdays between 2 p.m. and 4 p.m. and on Wednesdays between 9 a.m. and 12 noon. Please note that appointments cannot be booked by telephone.

FOURTH THEMATIC CERN SCHOOL OF COMPUTING

The Fourth Thematic School of Computing (CSC2016) takes place this year in Split, Croatia, from 22 to 28 May 2016. The theme is “Efficient and Parallel Processing of Scientific Data”, looking at:

- The challenge of scientific data processing: commonalities, analogies and the main differences between different sciences.
- Size of scientific software projects.
- Parallelism and asynchronism: computation and I/O.

The School is open to postgraduate students and research workers with a few years’ experience in elementary particle physics, computing, engineering or related fields. All applicants are welcome, including former and future participants in the main CSC summer school.

Registration will close on 15 February and participation is limited to 24 students. To register, please go here: http://cern.ch/go/7628.

About:

The Thematic Schools are part of the annual series of CERN Schools of Computing, to promote advanced learning and knowledge exchange on the subject of scientific computing between young scientists and engineers involved in particle physics or other sciences.

They are shorter and more focused than the main summer CSC School of Computing, but still maintain the same guiding principles: an academic dimension covering advanced topics, theory and practice; networking and socialisation.

Applications will be accepted until 15 February 2016.

For more information on the CSC, see: http://cern.ch/csc.
For registration and more information on the CSC2016, see: https://indico.cern.ch/e/CSC2016.

Alberto Pace, CSC Director

TAKE PART IN A DJANGO GIRLS TRAINING!

Women are often under-represented in IT. And yet, at any age and whatever their level and background, it is a field that can arouse much interest.

To overcome this under-representation, the ROSEH1PSters community organises Django workshops targeted at women to introduce them to the world of coding and technology by teaching them how to successfully create a blog application and deploy it to the internet. And who knows, a spark of interest in the newly-discovered IT world may develop into a shine! The aim of Django Girls is also to increase the diversity within the industry.

The mentors are mainly female volunteers who bring their passion to the workshop and are part of the awesome atmosphere attendees can feel during each event. Workshops have been organised worldwide regularly since 2014.

Deadline for applications: Thursday 11 February. Limited number of seats!
The event is entirely free and is not limited by age or background.

About ROSEH1PSters

ROSEH1PSters is a community aiming to enhance digital and IT culture for 21st century women of the 21st century. ROSEH1PSters provides a platform to express mixed ideas women of all generations by organising monthly presentations and discussions on life-shaping digital and IT topics they find worthy to discuss about.

CERN COMPUTING COLOQUIUM | COMPUTER SECURITY IN 2016: WHERE ARE WE AND WHAT TO EXPECT | 8 FEBRUARY

Computer Security in 2016: Where are we and what to expect by Sebastian Lopieniski, CERN-IT Monday 8 February from 17.15 to 18.15 p.m. http://cesminar.web.cern.ch/cesminar/ at CERN, Council Chamber (503-1-001)

Description: Attacks against computer systems, belonging both to individuals and organisations, are an everyday reality. How many times have we heard about supposedly well protected companies and online services at the mercy of cyber criminals, or governments accusing other nation states of cyber espionage. Only the most serious breaches and biggest data leaks continue to make the headlines. But really, how secure is our data, computers and networks? What is happening behind the scenes? Is it actually possible to avoid the vulnerabilities, or detect the resulting exploits? This talk will address these questions and provide a high-level overview of security trends in the last year or two. It will include information on emerging types of vulnerabilities and recent attack vectors, as well as providing an insight into the cyber-security world and the underground economy of 2015. The talk with finish with a discussion on how the HEP community and in particular CERN are affected by the general situation: what could be the motivation behind attacks against fundamental research scientific institutes?
NEWS

FROM THE CERN WEB: WEF, ALPHA, CAST AND MORE

This section highlights articles, blog posts and press releases published in the CERN web environment over the past weeks. This way, you won’t miss a thing...

Director General attends WEF annual meeting in Davos
28 January – by James Gillies

As head of a major intergovernmental organisation, CERN’s Director General has a standing invitation to attend the World Economic Forum’s annual meeting of leaders in politics, business and other walks of life at the Swiss mountain resort of Davos, and it’s an invitation that Fabiola Gianotti accepted this year. The theme for this year’s meeting was ‘mastering the fourth industrial revolution’, expected to be characterised by the rise of new technologies such as robotics and 3D printing.

Continue to read on: http://cern.ch/go/W7sG

CAST: enlightening the dark
15 January – CERN Courier

After sixteen years searching for solar axions, CAST is attracting new collaborators and widening its scientific programme.

Our star has been the target of human investigation since the beginning of science. However, a plethora of observations are yet not understood. A good example is the unnaturally hot solar corona, the temperature of which spans 1–10 MK. This anomaly has been studied since 1939 but, in spite of a tremendous number of observations, no real progress in understanding its origin has been made.

Continue to read on: http://cern.ch/go/S9SG

ALPHA experiment shows antihydrogen charge is neutral
21 January – by Harriet Jarlett

In a paper published in the journal Nature, researchers at CERN’s ALPHA experiment have shown – to the most accurate degree yet – that particles of antihydrogen have a neutral electrical charge.

According to the Standard Model, which explains how the basic building blocks of matter interact, all antimatter – such as antihydrogen – should have the exact opposite charge to its matter counterpart. For example, in a hydrogen atom, a negatively charged electron combines with a positively charged proton to give a net charge of zero. In contrast, an antihydrogen atom should have a positively charged positron combining with a negatively charged antiproton to give a net charge of zero. The Standard Model also says that during the Big Bang equal amounts of antimatter and matter were created. But today this isn’t the case, there is much less antimatter in the universe than matter.

Continue to read on: http://cern.ch/go/79ml

---

Supplemental

ATLAS and CMS upgrade proceeds to the next stage
15 January – CERN Courier

Event display of a top–antitop event with 200 pile-up events in the ATLAS Phase-II tracker. (Image credit: ATLAS)

The High-Luminosity LHC project will bring unprecedented collision rates to the experiments, but with some technical challenges.

At the end of the third operational period in 2023, the LHC will have delivered 300 fb⁻¹ and the final focusing magnets, installed at the collision points at each of four interaction regions in the LHC, will need to be replaced. By redesigning these magnets and improving the beam optics, the luminosity can be greatly increased. The High Luminosity LHC (HL-LHC) project aims to deliver 10 times the original design integrated luminosity (number of collisions) of the LHC.

Continue to read on: http://cern.ch/go/59SG
OFFICIAL NEWS
STAFF RULES AND REGULATIONS - MODIFICATION N°10 TO THE 11TH EDITION

The Five-Year Review 2015 has concluded with the approval, by the Finance Committee and the Council on 16 and 17 December 2015, of the package of measures proposed by the Management (CERN/2313).

In accordance with the recommendations made and decisions taken at the Finance Committee and Council meetings relating to diversity-related aspects, which enter into force on 1 January 2016, the following pages of the Staff Rules and Regulations have been updated:

- Preamble, Contents – amendment on page iv.
- Chapter II, Conditions of Employment and Association:
  - Section I (Employment and Association) – amendment on pages 11, 12, 14 and 15.
  - Section IV (Leave) – amendment on pages 24, 25 and 26.
- Chapter V, Social Conditions:
  - Section I (Family, partners and family benefits) – amendment on page 37.
  - Section II (Social insurance cover) – amendment on page 39.
  - Section III (Income tax, pension and unemployment)
- Chapter VII, Financial conditions:
  - Section I (Financial benefits) – amendment on page 46.
- Annex A R 9 (Installation indemnity) – amendment on page 75.
- Annex A R 10 (Reinstallation indemnity) – amendment on page 76.

The complete updated electronic version of the Staff Rules and Regulations is available via CDS (https://cds.cern.ch/record/1993099?ln=en).

The recommendations and decisions relating to the new CERN career structure, which will enter into force on 1 September 2016, will take effect on 1 January 2016, will be articulated in the new CERN career structure, which will take effect on 1 January 2016, and will be made by the new CERN career structure, which will take effect on 1 January 2016.

STAFF RULES AND REGULATIONS - MODIFICATION N°10 TO THE 11TH EDITION

The Five-Year Review 2015 has concluded with the approval, by the Finance Committee and the Council on 16 and 17 December 2015, of the package of measures proposed by the Management (CERN/2313).

In accordance with the recommendations made and decisions taken at the Finance Committee and Council meetings relating to diversity-related aspects, which enter into force on 1 January 2016, the following pages of the Staff Rules and Regulations have been updated:

- Preamble, Contents – amendment on page iv.
- Chapter II, Conditions of Employment and Association:
  - Section I (Employment and Association) – amendment on pages 11, 12, 14 and 15.
  - Section IV (Leave) – amendment on pages 24, 25 and 26.
- Chapter V, Social Conditions:
  - Section I (Family, partners and family benefits) – amendment on page 37.
  - Section II (Social insurance cover) – amendment on page 39.
  - Section III (Income tax, pension and unemployment)
- Chapter VII, Financial conditions:
  - Section I (Financial benefits) – amendment on page 46.
- Annex A R 9 (Installation indemnity) – amendment on page 75.
- Annex A R 10 (Reinstallation indemnity) – amendment on page 76.

The complete updated electronic version of the Staff Rules and Regulations is available via CDS (https://cds.cern.ch/record/1993099?ln=en).

The recommendations and decisions relating to the new CERN career structure, which will enter into force on 1 September 2016, will require a further update of the Staff Rules and Regulations to be published during the summer of 2016.

STAFF RULES AND REGULATIONS - MODIFICATION N°10 TO THE 11TH EDITION

The Five-Year Review 2015 has concluded with the approval, by the Finance Committee and the Council on 16 and 17 December 2015, of the package of measures proposed by the Management (CERN/2313).

In accordance with the recommendations made and decisions taken at the Finance Committee and Council meetings relating to diversity-related aspects, which enter into force on 1 January 2016, the following pages of the Staff Rules and Regulations have been updated:

- Preamble, Contents – amendment on page iv.
- Chapter II, Conditions of Employment and Association:
  - Section I (Employment and Association) – amendment on pages 11, 12, 14 and 15.
  - Section IV (Leave) – amendment on pages 24, 25 and 26.
- Chapter V, Social Conditions:
  - Section I (Family, partners and family benefits) – amendment on page 37.
  - Section II (Social insurance cover) – amendment on page 39.
  - Section III (Income tax, pension and unemployment)
- Chapter VII, Financial conditions:
  - Section I (Financial benefits) – amendment on page 46.
- Annex A R 9 (Installation indemnity) – amendment on page 75.
- Annex A R 10 (Reinstallation indemnity) – amendment on page 76.

The complete updated electronic version of the Staff Rules and Regulations is available via CDS (https://cds.cern.ch/record/1993099?ln=en).

The recommendations and decisions relating to the new CERN career structure, which will enter into force on 1 September 2016, will require a further update of the Staff Rules and Regulations to be published during the summer of 2016.
SAFETY TRAINING: PLACES AVAILABLE IN FEBRUARY 2016

There are places available in the forthcoming Safety courses. For updates and registrations, please refer to the Safety Training Catalogue on: http://cern.ch/go/gnL9.

<table>
<thead>
<tr>
<th>Title of the course EN</th>
<th>Title of the course FR</th>
<th>Date</th>
<th>Hours</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulation Specific Safety</td>
<td>Espace confind</td>
<td>01 Feb 16</td>
<td>09:00 - 12:00</td>
<td>English</td>
</tr>
<tr>
<td>ALICE - Confined Space</td>
<td>ALICE - Espace confind</td>
<td>01 Feb 16</td>
<td>09:00 - 12:00</td>
<td>English</td>
</tr>
<tr>
<td>ALICE - Underground - Guidle</td>
<td>ALICE - Souterrain - Guidle</td>
<td>01 Feb 16</td>
<td>09:00 - 12:00</td>
<td>English</td>
</tr>
<tr>
<td>CMS - Shift Leader in Matters of Safety (SiMu)</td>
<td>CMS - Chef d'Equipe en matieres de securite (SiMu)</td>
<td>01 Feb 16</td>
<td>09:00 - 12:00</td>
<td>English</td>
</tr>
<tr>
<td>CMS - Technical Shifter</td>
<td>CMS - Technique Shifter</td>
<td>01 Feb 16</td>
<td>09:00 - 12:00</td>
<td>English</td>
</tr>
<tr>
<td>CMS - Underground Guide</td>
<td>CMS - Souterrain - Guide</td>
<td>01 Feb 16</td>
<td>09:00 - 12:00</td>
<td>English</td>
</tr>
<tr>
<td>SOSL - Experimental Hall - Electrical Safety - Handling</td>
<td>ROSE - Rail d'experience - Securite electrique - Manipulation</td>
<td>12 Feb 16</td>
<td>14:00 - 17:00</td>
<td>English</td>
</tr>
<tr>
<td>SOSL - Experimental Hall - Radiation Protection - Handling</td>
<td>ROSE - Rail d'experience - Radioprotection - Manipulation</td>
<td>12 Feb 16</td>
<td>14:00 - 17:00</td>
<td>English</td>
</tr>
<tr>
<td>Chemical Safety (C)</td>
<td>Equipement de protection - Fondamental</td>
<td>04 Feb 16</td>
<td>09:00 - 12:00</td>
<td>French</td>
</tr>
<tr>
<td>Electrical Safety (EL)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calibration Electric Electrolyte Test - Initial</td>
<td>Calibration Electrique - Energie basse tension - Initial</td>
<td>04 Feb 16</td>
<td>09:00 - 12:00</td>
<td>French</td>
</tr>
<tr>
<td>Calibration Electric Non-Electric - Initial</td>
<td>Calibration Electrique - Non-electrique - Initial</td>
<td>04 Feb 16</td>
<td>09:00 - 12:00</td>
<td>French</td>
</tr>
<tr>
<td>Calibration Electric - Person making tests in labs on test bench - Initial</td>
<td>Calibration Electrique - Personnel realisant des essais en laboratoire ou en plateau d'essai - Initial</td>
<td>15 Feb 16</td>
<td>09:00 - 12:00</td>
<td>French</td>
</tr>
<tr>
<td>Fire (F)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire Extinguisher</td>
<td>Extincteur - Essai</td>
<td>01 Feb 16</td>
<td>09:00 - 12:00</td>
<td>English</td>
</tr>
<tr>
<td></td>
<td></td>
<td>01 Feb 16</td>
<td>09:00 - 12:00</td>
<td>English</td>
</tr>
<tr>
<td>Mechanical Safety (M)</td>
<td>Securite - Fondamental</td>
<td>16 Feb 16</td>
<td>10:00 - 12:00</td>
<td>English</td>
</tr>
</tbody>
</table>