

## ICARUS CRYOSTAT AND DETECTOR FINALLY REUNITED



On 12 October, the ICARUS cryostat was extracted from Building 156 and brought to the front of Building 185, where the ICARUS detector is. Next, the detector will be inserted into it, and at the end of the year, shipped to Fermilab.

After a short but spectacular trip, the first enormous ICARUS cryostat was reunited with its detector. The ICARUS detector, consisting of two modules, has been refurbished over the past several months, as part of the CERN Neutrino Platform programme. It was previously used at the Gran Sasso Laboratory in Italy.

A brand new aluminium cryostat has been assembled in building 156, after an engineering feat to rotate and weld the module into place. On 12 October, the new cryostat was moved in front of building 185 to

meet its detector.

The operation will be repeated with the second module soon. ICARUS will then be shipped to Fermilab, near Chicago in the US, to be part of the Short Baseline Neutrino (SBN) programme, in the beginning of 2017.

Find out more about what happened previously here (<http://home.web.cern.ch/cern-people/updates/2016/06/new-wings-give-icarus-flight-second-neutrino-hunt>).

## A WORD FROM FRÉDÉRICK BORDRY

### LHC SMASHES TARGETS FOR 2016 RUN

Last Tuesday 25 October, saw the last beams of the LHC's 2016 proton run, and what a run it has been. At the beginning of the year, we set ourselves the target of reaching the machine's peak design luminosity of  $10^{34}\text{cm}^{-2}\text{s}^{-1}$ , by the end of the run we were regularly operating at 30 % above that. Our target for the integrated luminosity for 2016 was 25 inverse femtobarns. We reached 40.

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# A WORD FROM FRÉDÉRICK BORDRY

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This success is underscored by the most amazing statistic of the year: in 2016, the LHC spent 60% of its operational time delivering stable beams to the experiments. I can't overstate the significance of this, because the total number of collisions we deliver to the experiments – the integrated luminosity-determines the capacity they have to carry out the great research that they do. The higher the availability of the machine, the more data we can deliver. It's as simple as that.

To put this in context, the LHC availability target we set for 2016 was an ambitious 50%. You might say we were not being ambitious enough, but this is a figure based on decades of experience. The Large Electron Positron collider, LEP, for example concluded its very successful research career with

30% availability, and LEP was a much simpler machine. The fact that we can run the LHC with such reliability is a resounding testimony to the quality of the machine, those who designed it and those who run it. It is also a very good sign for the machine's high-luminosity future.

The 2016 run was not without issues, however, and although it seems like a distant memory now, just a short while ago we were struggling through the dark month of May, dealing with issues ranging from the now-infamous beech marten with a penchant for high voltage to problems with the vacuum in the SPS beam dump and with the PS main power converter system. It's good not to forget these. They serve to remind us that with such a complex machine as the LHC, we can never be complacent.

The fantastic 2016 statistics belie the fact that the run was limited by some of these issues. SPS vacuum problems meant we could only inject 2200 bunches instead of the 2700 planned. And de-gassing in an LHC injection kicker, a magnet that steers bunches of particles into the LHC, limited the number of particles in each bunch.

The conclusion of the proton run is not, of course, the end of the LHC's 2016 run. We're now moving into a few weeks of collisions between lead-ions and protons, which will be carried out at collision energies of 5.02 and 8.16 TeV. This is the first time we've done lead-proton collisions since 2013, providing data important for interpreting the results of the lead-lead collisions. It's also the last ion run until 2018, since we have a longer than usual end of year technical stop this year to address issues such as the SPS beam dump vacuum leak.

Finally, we'll conclude the LHC's 2016 campaign with some preparations for the future. We have invested one week of proton physics running in order to have two full weeks instead of just one to start re-training sectors 3-4 and 4-5 to get more information for LHC running at the design energy of 14 TeV. News from this work will provide valuable input to the 2017 LHC performance workshop in January, which will set the scene for the coming years at the energy frontier.

Frédéric Bordry

Director for Accelerators and Technology

## ICARUS CRYOSTAT AND DETECTOR FINALLY REUNITED



The aluminum cryostat, which will contain one of the two ICARUS twin detector modules, was assembled and welded together in Building 156 over the past few months. (Image: Didier Steyaert/CERN)



On 12 October, the cryostat was carefully extracted from the workshop of Building 156.



It was loaded onto a big lorry...



...and extremely carefully manoeuvred through the streets of CERN's Meyrin site...



...to the front of Building 185. (Images: M. Brice/CERN)

## LHC REPORT: END OF 2016 PROTON-PROTON OPERATION

On 26 October, the 2016 proton-proton physics came to an end. The final integrated luminosity totals averaged around  $40 \text{ fb}^{-1}$  in ATLAS and CMS (whereas the target for the whole year was  $25 \text{ fb}^{-1}$ )  $1.8 \text{ fb}^{-1}$  in LHCb and  $13 \text{ pb}^{-1}$  in ALICE. The year's proton run also included some successful physics runs and some operation in nominal physics conditions for the forward experiments TOTEM/CT-PPS, ALFA and AFP.

At the start of the year, following the usual intensity ramp-up, the peak luminosity was already impressive, with a relatively bold initial set-up delivering significantly smaller beam sizes at the interaction points than in 2015. Peak luminosity was further improved, firstly by using smaller beams from the injectors (BCMS) and then via a re-

duction in the angle at which the beams cross at the interaction points of ATLAS and CMS. The resultant luminosity topped out at around  $1.4 \times 10^{34} \text{ cm}^{-2}\text{s}^{-1}$ , 40% above the design value. Peak performance is nothing without consistency and perhaps the most standout feature of the year was the remarkable availability of the myriad systems and components of the LHC and its injectors. This was the result of an ongoing campaign that targets reliability and the reduction of the effects of radiation on tunnel electronics. In practice, it translated into many long and productive fills and an integrated luminosity delivery rate that went well beyond expectations.

The last couple of weeks have seen time taken out of regular operations for a number of tests that target the future perfor-

mance of both the machine and the experiments. For the machine they include electron cloud measurements, beam stability investigations and preparation for higher bunch intensity. The experiments took a fill with very high pile-up (the number of proton-proton collisions per bunch crossing) and continued with checks of their luminosity calibration.

A final machine development period took place from 27 to 30 October. This is being followed by a technical stop, during which, among other things, the experiments will install special forward detectors for the upcoming proton-lead run, slated for 7 November to 4 December.

LHC Team

## THE PORT MAKES INNOVATION FLY HIGH



Six weeks of preparation followed by a 60-hour hackathon to design and build working prototypes addressing concrete humanitarian

problems: this is the challenge that eight teams accepted when they participated in the THE Port hackathon that took place from 14 to 16 October at CERN.

The interdisciplinary teams spent a long weekend building their prototypes in the cosy (and well-equipped) IdeaSquare premises. Responding to the humanitarian challenges selected, the eight teams presented just as many proposals, including a toolkit for obtaining efficient forensic photos; an app to match needs and of-

fers of help arising after a natural disaster; a sonification and gamification device to help the user correctly execute planned exercises without the direct help of the physiotherapist; a combined solution for tracking and stopping counterfeit drugs before they are distributed to patients; a burner that can disarm unexploded bombs safely; a device designed to monitor explosions objectively via the acoustic waves they generate; a new system for disposing of waste in Field-Ready hospitals; and a machine-learning tool designed to analyse information available on the web about,

for example, a major incident in order to give humanitarian workers the full picture of what happened.

Each team was able to count on the help of tutors and experts from CERN as well as partners from several non-governmental organisations based in Geneva. On the evening of 16 October, the final event at the Globe was attended by over 200 people and watched live by 180 hackathon enthusiasts.

The success of the hackathon comes as no surprise to people who have experienced it before, but was a shock to first-time participants. "It was my first hackathon and much more than I expected," says Grace Torrellas, from the counterfeit drug reduction team. "Despite the relatively short interaction the team had during the prepara-

tion phase, the magic really sparks when there is face-to-face exchange and collaboration," she adds.

"A unique aspect of the hackathon is that we all work together towards solving real-world problems with concrete and immediate applications," confirms Romain Bazile, a third-time participant.

THE Port's work does not end with the final presentations: "Our goal is to demonstrate the value of fundamental science to society," says Daniel Dobos, one of the founders of THE Port and a member of the organising team. "We are proud to say that this year's partners, including the ICRC, Handicap International and the Global Humanitarian Lab, have directly expressed an interest in incubating, accelerating and scaling solutions based on this weekend's

efforts."

Even if you missed this event, you can still sign up for THE Port's upcoming events, including UN POP UP Muse on 10 November at the *Palais des Nations* and the Geneva Global Goals Innovation Day on 24 March 2017. "We will also share news of the upcoming spring hackathons, including the popular Science Hackathon, soon," adds Daniel.

A recording of the final presentations can be found here (<http://cdsweb.cern.ch/record/2225856>). Feel free to contact the teams if you want to contribute to the follow-up of the solution proposed or support them financially.

*Stefania Imperia for THE Port*

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## CAS INTRODUCTION TO ACCELERATOR PHYSICS IN BUDAPEST, HUNGARY



Participants to the CERN Accelerator School (CAS) held in Budapest, Hungary from 2-14 October 2016.

The CERN Accelerator School (CAS) and the Wigner Research Centre for Physics in Budapest jointly organised an Introduction to Accelerator Physics course in Budapest, Hungary from 2-14 October 2016.

The course was held at the Hotel Helia and was attended by 123 participants of 28 nationalities, from countries as far away as Australia, China, Russia, South Africa and the United States.

The intensive programme comprised 42 lectures, two seminars and three tutorials. A poster session and a 1-slide/1-minute session were also included in the programme, where the students were able to present their work. Feedback from the students was very positive, praising the expertise of the lecturers, as well as the high standard and quality of their lectures.

In addition to the academic programme, the students had the opportunity to visit the

Royal Palace of Visegrád and the Basilica of Esztergom. A special dinner was organised on a boat on the River Danube.

Next year CAS will be organising a specialised course on Beam Injection, Extraction and Transfer, to be held in Erice, Sicily from 10-19 March and a second specialised course on Vacuum for Particle Accelerators, to be held in Lund, Sweden from 6-16 June. The next course on Advanced Accelerator Physics will be held in the UK in the early autumn and a Joint International Accelerator School on RF Technology will be held in Hayama, Japan from 16-26 October. Further information on upcoming CAS courses can be found on the CAS website (<http://www.cern.ch/schools/CAS>).

# CERN MODERNISES ITS RECRUITMENT PROCESS

The Human Resources (HR) department is in the process of implementing a new tool that will improve the way in which CERN recruits students, fellows, staff and associates. Modern, flexible and efficient, the SmartRecruiters (<http://www.smartrecruiters.com/>) software meets all the needs of CERN's recruitment team, and its future users will put it to the test in the coming months. "It will take several months to set the software up and adapt it to CERN's specific characteristics," says Anne Capodici, the project leader in the HR department. "We will do that by working in close collaboration with our colleagues in the various departments in order to optimise our recruitment processes together."

After 13 years of good, loyal service,

CERN's previous recruitment tool, e-RT, has reached the point where it no longer meets the Organization's needs. In particular, it doesn't have the flexibility to respond to CERN's ever-growing recruitment requirements and lacks mobile functionality. SmartRecruiters, on the other hand, offers an intuitive and user-friendly integrated mobile recruitment platform combining all the different applications into a single package. "More and more candidates are now using their mobile devices to view and apply for job vacancies," says Anna Cook, deputy project leader in the HR department. "So it's essential for CERN's recruitment system to offer a mobile platform."

SmartRecruiters will also improve and speed up interactions between the various

people involved in the recruitment process at CERN, allowing them to achieve more in less time. "Our current recruitment process is not completely standardised, which makes it slow and tedious," Capodici explains. "SmartRecruiters will allow everyone – the employers in the departments, the HR recruiters and the candidates – to collaborate and interact efficiently by connecting to one single platform."

With its modern design and numerous functions, the SmartRecruiters platform mirrors CERN's image as a modern laboratory at the cutting edge of its field – an image that will no doubt attract candidates.

Anaïs Schaeffer

## ATLAS AND CMS PHYSICISTS AWARDED 2017 PANOFSKY PRIZE

On Tuesday, 11 October 2016, the American Physical Society (APS) announced the award of the 2017 W.K.H. Panofsky Prize in Experimental Particle Physics to Michel Della Negra (Imperial College London and, previously, CERN), Peter Jenni (Albert-Ludwigs-University Freiburg and, previously, CERN), and Tejinder Virdee (Imperial College London) "for distinguished leadership in the conception, design, and construction of the ATLAS and CMS detectors, which were instrumental in the discovery of the Higgs boson."

On the same occasion, the 2017 J. J. Sakurai Prize for Theoretical Particle Physics was awarded to Sally Dawson (Brookhaven

National Laboratory), John F. Gunion (University of California, Davis), Howard E. Haber (University of California, Santa Cruz), and Gordon L. Kane (University of Michigan) "for instrumental contributions to the theory of the properties, reactions, and signatures of the Higgs boson."

"Each year, the American Physical Society recognises leading physicists through a variety of prizes and awards," said APS President Dr Homer Neal. "We are proud to honour a spectrum of recipients, including outstanding early-career researchers, exceptional communicators and educators, and accomplished theorists and experimentalists working in every major field of physics."

"CERN is very proud that the prestigious Panofsky Prize has been awarded to three of the early leaders of the ATLAS and CMS experiments. We also greatly appreciate the recognition of the important theoretical work on the Higgs boson phenomenology by four distinguished theoretical physicists. We are grateful to the APS for highlighting excellent scientific work related directly or indirectly to the LHC project, to which our US colleagues have contributed in a very significant way," said CERN Director-General Fabiola Gianotti.

Anaïs Schaeffer

# ATLAS REWARDS OUTSTANDING ACHIEVEMENTS DURING RUN 2



Katsuo Tokushuku (Collaboration Board Chairperson), Karolos Potamianos, Dave Charlton (ATLAS Spokesperson), Kerstin Lantzsch, Yosuke Takubo, Stephen Haywood (Chairperson of the selection committee) and Marcello Bindi. (Image: S. Biondi/ATLAS Experiment)

The 2016 ATLAS Outstanding Achievement Awards ceremony was held at CERN on 20 October. Now in its third year, the

awards recognise excellent contributions made to the collaboration, with an emphasis on this occasion on activities carried out in the first year of Run 2.

"There are a lot of excellent, hard-working people in ATLAS, as displayed by the quality and quantity of the nominations we received," said Stephen Haywood, Chair of the selection committee. "As such, the committee had to make many hard choices, as we tried to pick out the 'outstanding' from all the excellent work nominated."

As in previous years, nominations came from across the collaboration, in areas such as technical coordination and detector systems, as well as activities including upgrade, combined performance and outreach. The Collaboration Board Chair

Advisory Group examined each of the 62 nominations to make their final selections.

The first to receive their awards were Marcello Bindi (University of Göttingen), Laura Jeanty (Berkeley National Laboratory), Kerstin Lantzsch (University of Bonn), Karolos Potamianos (Berkeley National Laboratory) and Yosuke Takubo (KEK). They were rewarded for their outstanding contributions to the successful commissioning and operation of the Pixel Detector for the start-up of Run 2.

Learn more about the awards and other winners here (<http://atlas.cern/updates/atlas-news/atlas-awards-outstanding-achievement>).

Katarina Anthony

## COMPUTER SECURITY: DO WE NEED MORE SOFTWARE LIABILITY?

The CERN Computer Security Team and our colleagues, as well as external students participating in the CERN WhiteHat Challenge and friendly peers around the world, repeatedly detect weaknesses and vulnerabilities in websites and software applications developed or run at CERN. It is a never-ending race between the good side and the evil-doers who would love to misuse those weaknesses and vulnerabilities to break into CERN and misuse our computing resources for their malicious deeds.

So why is software buggy? Of course, complexity is one argument why there will always be software flaws. But we shouldn't hide behind that argument. The flaws are introduced by humans. Time pressure, suboptimal programming skills and lack of good practices mean that secure coding is overlooked. And there is no incentive to change that. Besides software, there are barely any other products worldwide where the customer has to bear all the consequences of a bad product: maybe drugs? In other fields that introduce risk for the user, such as engineering and medicine,

the professionals creating products are required to be accredited and perform audits and safety checks. Perhaps we need to introduce a government-sponsored liability programme for any software being sold or distributed widely? Legally require software companies and programmers to have a bounty programme and make them pay for any vulnerability found in their software. The sum paid to the first finder might follow a nationwide (or even international?) catalogue. Cross-site scripting: 1000 CHF, SQL injection: 5000 CHF, remote code execution: 10,000 CHF. This payment might even be proportional to the user base of the vulnerable software. For Microsoft software, the payment is higher, for my software which barely anyone uses, the sum is lower. But they would only need to pay if their software is closed source. The bounty costs for open-source code would be covered by the government...

What would be the benefits? First of all, software companies and programmers would be required to pay attention to secure coding. Of course, they can decide

that it is more effective for them to pay the bounty instead and get their software improved through external means. Or, even more beneficial to the world, make their software open source and have the government pay. Secondly, there would be an alternative to the black underground market for vulnerabilities and exploits. At least those GreyHats who make their living by selling vulnerabilities could be brought back into legality. For any other IT folks, e.g. computer science students, even you and I, who for ethical reasons never went Grey or BlackHat, can train themselves and earn additional revenue. And third, this programme would direct many more eyes on each software package. And the more eyes, the more vulnerabilities found and the more secure our software foundations. But we are far away from that. And there might be plenty of other details which would need to be considered, too.

For the moment, we have to count on YOU(!) to make any software that you deploy or develop more secure. At CERN, there are several options for programmers

and software developers:

- Follow these general guidelines ([http://cern.ch/security/recommendations/en/checklist\\_for\\_code\\_tools.shtml](http://cern.ch/security/recommendations/en/checklist_for_code_tools.shtml)) or the dedicated ones for web applications ([http://cern.ch/security/recommendations/en/web\\_applications.shtml](http://cern.ch/security/recommendations/en/web_applications.shtml)) or password handling ([http://cern.ch/security/recommendations/en/password\\_alternatives.shtml](http://cern.ch/security/recommendations/en/password_alternatives.shtml))
- Read a book ([http://cern.ch/security/recommendations/en/more\\_on\\_software.shtml](http://cern.ch/security/recommendations/en/more_on_software.shtml))
- Use our recommended static code

analysers ([http://cern.ch/security/recommendations/en/code\\_tools.shtml](http://cern.ch/security/recommendations/en/code_tools.shtml)) which help you to improve the security of your code. We have even provided a dedicated set of static analysis programmes for integration in the Gitlab Continuous Integration process ([http://gitlab.cern.ch/gitlabc-examples/static\\_code\\_analysis](http://gitlab.cern.ch/gitlabc-examples/static_code_analysis))

- Request a security scan for the websites you manage (<http://webservices.web.cern.ch/webservices/Tools/RequestSecurityScan/>) or invoke the APEX scanning tool if you run an Oracle APEX website ([http://cern.ch/security/recommendations/en/apex\\_applications.shtml](http://cern.ch/security/recommendations/en/apex_applications.shtml))

[http://cern.ch/security/recommendations/en/apex\\_applications.shtml](http://cern.ch/security/recommendations/en/apex_applications.shtml)

- Join our WhiteHat Challenge (<http://cern.ch/security/services/en/whitehats.shtml>) and learn to penetration test your software
- Or contact us at [Computer.Security@cern.ch](mailto:Computer.Security@cern.ch) to help you!

For further information, questions or help, check our website (<http://cern.ch/Computer.Security>) or contact us at [Computer.Security@cern.ch](mailto:Computer.Security@cern.ch).

*The Computer Security Team*

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## CERN LAUNCHES OPEN JOURNAL OF EXPERIMENTAL INNOVATION – CIJ



Inauguration of IdeaSquare (Image: Jean-Claude Gademer/CERN)

CERN's new on-line journal *CERN IdeaSquare Journal of Experimental Innovation* (CIJ) will publish empirical and theoretical research on the practice of strategic technology and innovation management. It is a multi-disciplinary, open on-line journal that focuses on in-situ innovation experimentation, strategic innovation management, knowledge transfer and management, and innovation policy issues.

"At CERN we experiment with new ideas all the time, and IdeaSquare is a key part of that drive towards innovation," says Charlotte Warakaulle, Director for International

Relations at CERN. "Here, we bring together people from the worlds of scientific instruments-building and societal action to find practical solutions to challenges on the ground, in humanitarian work and in many other areas. It is an innovative process with innovative outcomes," she adds.

Roberto Verganti, Professor of Leadership and Innovation at Politecnico di Milano continues that "CIJ will also give means to document the societal impact of the student projects at IdeaSquare and elsewhere". "IdeaSquare and CIJ offer a new and unique platform to carry out and investigate student's experimentation-driven innovation, inspired by the way CERN does frontier physics research," explain Markus Nordberg, IdeaSquare project leader, and Saku Mäkinen, Research Director at Helsinki Institute of Physics and Editor in Chief of the New Journal. "Without experimentation, no real innovation is possible," says Saku Mäkinen. "The process of innovation is just as important as the products of this creative process. This is why we are excited to launch this new journal reporting results of contemporary research on the innovation experiments."

The CIJ aims to increase our understand-

ing of how the innovation process happens, and what are the best conditions to efficiently accelerate innovation. It also aims to investigate how innovation permeates into society and how new innovations are adopted, modified and even eventually discarded. In that sense, the CIJ is interested in the social dimensions of experimentation in innovation, as well as the innovation management aspect.

For more information, see the full article published on the Knowledge Transfer website (<http://kt.cern/article/cern-launches-open-journal-of-experimental-innovation>).

### Call for papers

Call for papers for a CIJ Special Issue "Experimenting in Innovation". Submission deadline: 31 December 2016.

We are very pleased to announce a call for papers for the first special issue for the CERN Idea Square Journal of Experimental Innovation (CIJ).

For more information, see the full article published on CERN's e-publishing website (<http://e-publishing.cern.ch/index.php/CIJ/announcement/view/2>).

Anaïs Rassat for the KT group

# Official communications

## OPERATIONAL CIRCULAR NO. 7 (REV. 1) – TELEWORK

Operational Circular No. 7 (Rev. 1) entitled "*Telework*", approved by the Director-General following discussion in the Standing Concertation Committee meeting on 20 September 2016, is available via the following link: <http://cds.cern.ch/record/2226586>.

This revised circular cancels and replaces Administrative Circular No. 7 entitled "*Work*

*from home*", of May 2004.

The circular has been modified to reflect the amendments agreed at the outcome of the five-yearly review 2015 with the main aim of increasing flexibility and providing fellows the possibility to telework. Telework may now be carried out in any location, provided the teleworker remains contactable by CERN. The new circular also provides

for telework to take place on an occasional basis.

This circular will enter into force on 1 November 2016.

*Department Head Office  
HR Department*

## ADMINISTRATIVE CIRCULAR NO. 5 (REV. 2) – DEPENDENT CHILD

Administrative Circular No. 5 (Rev. 2) entitled "*Dependent child*", approved by the Director-General following discussion in the Standing Concertation Committee meeting on 20 September 2016, is available via the following link: <http://cds.cern.ch/record/2226585>

This revised circular cancels and replaces Administrative Circular No. 5 (Rev. 1) also entitled "*Dependent child*", of October 1994.

The main changes concern: a) a general restructuring of the circular, as well as a modernization and harmonization of terminology; b) addition of articles to reflect the current practice: for example, that a paid internship is compatible with the status of dependent child, and that the conclusion of studies is defined by specified dates; and c) addition of new articles, for example: dependent status may be maintained during an interruption of studies due to a serious injury or illness; dependent child status will be maintained during an interruption of

full time studies or vocational training for a maximum period of four months so long as the interruption is immediately followed by full time studies, vocational training or military service for a period of at least four weeks.

This circular will enter into force on 1 November 2016.

*Department Head Office  
HR Department*

# Announcements

## SURVEY ON THE NEW BULLETIN FOR THE CERN COMMUNITY

A new newsletter was released last month to take the place of the previous *Bulletin*. This newsletter, renamed *Bulletin for the CERN Community*, will cover all of the news and announcements published on the *CERN Community page* over the fortnight prior to publication: <http://home.cern/cern-people>.

We invite you to comment on the layout and content of the CERN Community page and the newsletter via the following survey: <http://surveys.web.cern.ch/new-bulletin-cern-community>.

For more information about these changes,

please read the article: <http://home.web.cern.ch/cern-people/updates/2016/10/new-look-bulletin-has-arrived>.

*The Editorial Content Development Section, Education, Communication and Outreach group*

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# 2017 CERN-LATIN-AMERICAN SCHOOL OF HIGH-ENERGY PHYSICS

The 2017 CERN-Latin-American School of High-Energy Physics will be held in San Juan del Rio, Mexico, 8-21 March 2017.

Please note that the **deadline** for applications is **18 November 2016**. The lectures will cover a broad range of HEP topics at

a level suitable for students working for a PhD in experimental particle physics.

Note that financial support may be available for Latin-American students attending the School. Although the School is targeted particularly at students from Latin-

American countries, it is open to self-funding students coming from other regions.

Details can be found from: <http://cern.ch/PhysicSchool/CLASHEP/CLASHEP2017/>.

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## 'HIGGS COSMOLOGY' MEETING AT ROYAL SOCIETY — 27-28 MARCH

The Royal Society is coordinating a 2-day residential meeting at Royal Society in Chicheley Hall, Buckinghamshire, on 27-28 March 2017 entitled 'Higgs cosmology'.

This meeting will explore the implications of the Higgs discovery for the theory of cosmological inflation, matter-antimatter asymmetry, dark matter and other open questions in cosmology.

The meeting will include a poster session and the call for abstracts is currently open. To submit a poster abstract for consideration please email [kavli.events@royalsociety.org](mailto:kavli.events@royalsociety.org) with your poster title, proposed poster presenter, list of authors and an abstract of 200-250 words by Monday 13 February 2017.

This is a residential meeting, which allows

for increased networking and discussion. It is free to attend, but participants will need to cover their accommodation and catering costs.

For more information, see here. (<http://royalsociety.org/science-events-and-lectures/2017/03/higgs-cosmology/>)

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## ACCELERATORS EXPLAINED FOR EVERYONE – WITHOUT MATHS

This seminar is intended for all persons at CERN, also those who do not have a background in physics, mathematics or engineering. It will explain the basic functioning of the CERN Accelerator Complex and more specifically how an accelerator works, what the different components are and some of the performance limitations, without diving into mathematical formulas and concepts. Towards the end it will also give a glimpse on what the LIU and HL-LHC projects are.

The attendance is limited to 100 persons per seminar to allow for questions and dis-

cussions. However, if necessary, more sessions will be organised both in French and English (slides in English).

Presently the following is organised:

- Friday 25 November at 15:00: Auditorium Prévessin (774-R-013) in English
- Friday 9 December at 15:00: Auditorium Meyrin (6-2-024) in French (slides in English)

The presentation will be 1 hour with an additional 15 minutes for questions and discussion.

The presenter is Rende Steerenberg, who works in the Operations group of the Beam Department. Among others he also lectures the yearly AXEL course which is a 10-lecture introductory course on basic accelerator physics, including the necessary maths.

For participation (free of charge), registration is required. Please sign-up via this link (<http://cern.ch/course/?169ACC01>).

Organisers:

Rende Steerenberg, BE-OP/79086/164518  
Technical Training/HR-LD/72844

# COLLOQUE WRIGHT: THE GENOMIC REVOLUTION

The 17th edition of the Wright Colloquium is centred on genomics, or the study of life at the genome level. This year, we will hear from specialists in areas that are profoundly transformed by the advent of genomics. There will be discussions about neurogenetics, personalised medicine, and the history of our species and of our cousins, the Neanderthals. The Colloquium will close with a reflection of a philosopher about how the genomic revolution is perceived in our societies, and what questions it raises.

**From 7 to 11 November**, Uni Dufour, Auditorium Piaget, Rue Général-Dufour 24, 1204 Genève, Free entry.

- **Monday 7 November** Understanding the sense of smell **Linda Buck** Nobel Prize in Physiology or

Medicine, 2004, Professor at the Fred Hutchinson Cancer Center.

- **Tuesday 8 November** Personalised medicine: genomic sequencing and other profiling **Michael Snyder** Geneticist, Professor at Stanford, Director of the Center for Genomics and Personalised Medicine.
- **Thursday 10 November** The Neanderthal and our origins **Svante Paabo** Biologist specialist in evolutionary genomics, Director of the Max Planck Institute Department of Genetics in Leipzig.
- **Friday 11 November** The newly improvable man **Peter Sloterdijk** Philosopher and Essayist, Professor at the Hochschule für Gestaltung de Karlsruhe.

## Sound and light show

For a second year, a sound and light show will be organized in Parc des Bastions in addition to the public conferences.

**Every evening from 2 to 20 November**, three shows of 20 minutes at 5.45 PM, 7 PM and 8.30 PM, Uni Bastions, park side.

## Younger public

On Wednesday 9 November, youth aged from 14 to 20 years old will be able to meet with the Colloquium's four scientists and talk with them during an informal gathering. The meeting will take place at the University Medical Center (CMU). In addition to the meeting with the lecturers, visits of genomic labs and the exhibition "Génome" will be organized. Information and subscription here (<http://www.colloque.ch/2016/en/practical/>).

# CERN CAR PARKS: REGISTRATION PLATE READERS ARE OPERATIONAL

As announced in Bulletin No. 22-23, the SMB Department has installed vehicle registration plate readers at the entrances and exits of the *Les Cèdres* car park and of the Building 4 and 5 car park, both on the Meyrin site (Routes Scherrer and Bohr).

These registration plate readers are now operational and have already started to collect data.

We remind you that the goal of the study is to better understand users' traffic and

parking habits so that we can elaborate suitable solutions and, eventually, inform drivers about the occupancy levels of car parks in real time.

*SMB Department*

# VACCINATION AGAINST SEASONAL FLU

As is the case every autumn, the Medical Service suggests that you should get vaccinated against seasonal flu.

We would like to remind you that vaccination is the best method of protecting yourself and others against this contagious illness, which can have serious consequences for certain people, especially those suffering from chronic medical conditions (e.g. chronic pulmonary, cardiovascular or kidney disease, diabetes, cancer, etc.), pregnant women, babies and those over 65.

As the Medical Service does not supply

the vaccine, you must purchase it from a pharmacy. From the beginning of October you can then bring your vaccine to the infirmary (Building 57-Ground floor) and have it administered without an appointment between 9 a.m. and 12 noon and between 2 p.m. and 4.30 p.m.

For the purposes of health insurance reimbursement, you can get a prescription made out by the Medical Service either on the day of the injection or in advance.

**Reminder:** the Medical Service **does not provide** this vaccination service for family members or retired members of the per-

sonnel.

*For further information and new recommendations for 2016, please consult:*

- The 'Seasonal Flu' website and flyer from the Medical Service
- The recommendations of the Swiss Federal Office of Public Health (OFSP): <http://www.vaccinateagainsttheflu.ch/en-us/>

*CERN Medical Service*

# PREPARING FOR RETIREMENT-SEMINARS

If you are a staff member and considering retirement in the next one or two years, we encourage you to participate in two special seminars, organised by Human Resources Department.

1. **Leaving CERN** (half day seminar): short presentations by internal speakers, focusing on which options CERN offers at the end of your career.

- organised once per year.
- next session scheduled on **15 November 2016**, in the afternoon.

- more info and enrolment via the CERN training catalogue.

1. **Preparation for retirement** (2-day seminar): interactive workshop (in small groups) delivered by external experts, focusing on how to prepare psychologically as well as practically to cope with all the changes retirement brings.

- organised regularly, in English or French.
- more info and enrolment via the CERN training catalogue.

Spouses/partners are also welcome – please enrol them in the same way as you enrol yourself.

Retirement marks the end of a career and the start of a new chapter in life. In all cases, being well-informed and prepared is necessary to successfully cope with this transition!

*For more information, you can contact:*

**Erwin MOSSELMANS, HR-LD**  
*your.career@cern.ch*  
Tel. 74125

# TECHNICAL TRAINING COURSES FOR PROGRAMMERS

This autumn, two technical training courses have been launched for scientists and engineers at CERN who undertake programming tasks, particularly in C and C++. Both courses are taught by Andrzej Nowak; an expert in next-generation and cutting edge computing technology research. The training courses are organised in cooperation with CERN openlab and are sponsored by the CERN IT department – there is only a nominal registration fee of 50 CHF. This is an opportunity not to be missed!

• **Computer architecture and hardware-software interaction (2 days, 1 Nov– 2 Nov)**

• **Programming and environments for parallelism (4 days, 29 Nov – 2 Dec)** The parallelism course dives into a wide range of parallel programming techniques, whether data- or task-parallel. We start with an overview of patterns and look at trade-offs, pitfalls and available parallel programming environments –

with a particular focus on OpenMP4, Threading Building Blocks and Cilk. The last day is an advanced class devoted to fine-tuning and balancing parallel programs using modern frameworks, runtimes and APIs. Lab exercises are included.

Participants can register via the training catalogue (<http://course.web.cern.ch/course/?153OPL02>). For more information, please contact [Technical.Training@cern.ch](mailto:Technical.Training@cern.ch).

# From the CERN Community

## OMBUDS' CORNER: A LAND OF EQUAL OPPORTUNITY?

Sometimes sexism hides behind the words and apparent compliments that women hear from their colleagues, supervisors and managers. This can be a slippery slope, where the rules of the game often depend on the cultures involved, and the players' actions may be said to be defined by their own perceptions and reactions.

"We have a great team! Three girls and two men working on this project"... *Girls???* Who are you calling "girls"? Do you mean

*your female colleagues?*

"By the way, Laure, I know that it will be difficult for you to attend that conference – with your kids and everything... so Marc has kindly agreed to take your place" ... *Wait a moment... who made that decision and why? Doesn't Marc have kids, too? Why is it a problem for me and not for him?*

"No Mary, I haven't forgotten our discussion – you are of course the right person

to lead the project. Let's just wait and see how things stand when you are back from maternity leave – things may look different then"..." *In other words, you doubt my commitment?*

The above examples show how apparently kind comments can actually hide an underlying sexist attitude that is perceived by our female colleagues, gnaws away at their confidence and may even end up undermining their performance. These examples

suggest that although we work in an Organization that values diversity and clearly condemns gender discrimination, our everyday reality shows that sexism can be very much alive and sometimes, even kicking.

Then there are all those times when a male colleague stands too close to Brigitte, ... stares a little too long at Petra... keeps insisting that Michelle join him for a coffee, or a beer, or a drink after the conference dinner... and they are all left with a familiar sinking feeling, trying to laugh it off and pretend that they do not really mind, knowing that they must not appear too aggressive or humourless, yet all the time wondering why

a simple "no" does not suffice.

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, these numbers show that there are proportionally three to four times more women than men consulting the Ombud. This pattern is mirrored in the Diversity in Action workshops, which also seem to attract a proportionally higher number of female participants. Although the issues raised by women are essentially the same as those faced by their male colleagues, there is often another experience lurking beneath the surface, and a closer

examination reveals examples of stereotyping and unconscious bias that is common to many of them.

That women regularly have a need to discuss and share these more insidious experiences clearly raises the question as to whether or not our work environment is equally supportive to all colleagues. However, if we are indeed to get any answers, their experience needs to be shared with a wider audience, and male colleagues are strongly urged to get involved and enter the discussion! Let us all join forces to make CERN truly a land of equal opportunity!