CERN Bulletin

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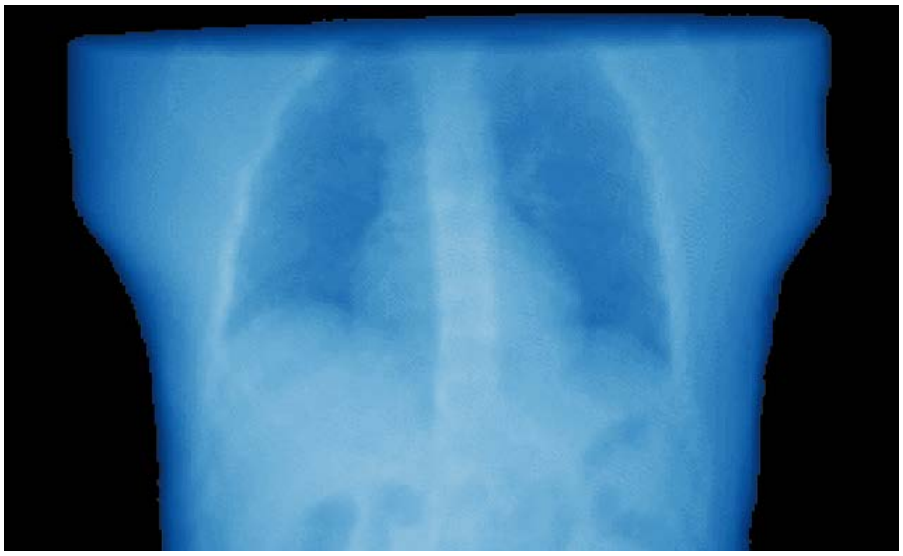
NEW OPEN SOURCE MEDICAL IMAGING TOOLS RELEASED BY CERN AND UNIVERSITY OF BATH COLLABORATION

New toolbox has applications in medical imaging and cancer diagnosis.



3D X-ray imaging of a patient's lungs and thorax. The TIGRE toolbox provides a high resolution image with only 1/30th of the radiation for the patient. (Image: Ander Biguri)

CERN and the University of Bath have released a new toolbox for fast, accurate 3D X-ray image reconstruction with applications in medical imaging and cancer diagnosis.

The software offers a very simple and affordable way to improve imaging and potentially reduce radiation doses for patients.

The toolbox is based on Cone Beam Computed Tomography (CBCT), a type of scanning process that takes a series of 2D X-ray pictures and that then processes them into a 3D image. As part of the collaborative project between CERN and the University of Bath, Ander Biguri, a PhD student at Bath, has reviewed a broad range of published CBCT algorithms and adapted them to be faster. Ander Biguri modified the algorithms to run on a laptop fitted with a GPU – the same graphic processor found inside video game consoles.

The new software means the medical imaging processing can run around 1000 times faster. Another strong point of the toolbox is that it makes it easier to compare reconstructions using different algorithms. The project was coordinated by Dr. Manuchehr Soleimani, from the University of Bath, and on the CERN side, by Dr. Steven Hancock and Prof. Manjit Dosanjh.

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A WORD FROM MARTIN STEINACHER

MAKING CERN A MODERN AND ATTRACTIVE EMPLOYER

On 1 September 2016, the new career structure that emerged from the latest five-yearly review of employment terms and conditions came into effect.

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NEWS

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A WORD FROM MARTIN STEINACHER

MAKING CERN A MODERN AND ATTRACTIVE EMPLOYER

All CERN staff received a letter in August explaining what the new structure means for them personally, while an HR road show has presented the new structure around the departments. The five-yearly review focused on CERN staff, but it also concerns Fellows and Associates. Its aims are to contribute to the long-term sustainability of CERN by ensuring that we are competitive in the job market, and that we are attentive to the needs of our personnel.

Surveys conducted by both the HR Department and the Staff Association told us that people care about things like diversity, flexibility, social conditions and transparency. As a result, new procedures simplify the annual performance appraisal, clarify the promotion process and introduce more flexible conditions for parental leave and teleworking. These things are all designed to make CERN a modern and attractive employer.

Along with the new career structure come a series of benchmark jobs. All CERN staff have been classified in the new structure. This exercise was not part of the five-yearly review, but goes hand-in-hand with it. It was designed to introduce clarity across the organisation, thereby facilitating long-term development and mobility. It will also help the HR department in its modelling and long-term planning of CERN's staff needs.

A great deal of work and thought has gone into this five-yearly review, and the establishment of benchmark jobs. The process was driven and coordinated by the HR Department in close collaboration with the Staff Association, with input from all Departments and many other services around the organization. The result is something that we can be proud of, and I'd like to thank everyone who contributed to bringing the process to a successful conclusion.

Information about the five-yearly review and benchmark jobs can be found on: cern.ch/go/PXh9 and cern.ch/go/9jNc.

Martin Steinacher, Director for Finance and Human Resources

(Continued from page 1)

NEW OPEN SOURCE MEDICAL IMAGING TOOLS RELEASED BY CERN AND UNIVERSITY OF BATH COLLABORATION

"Things that took days to process can be done in minutes on the laptop," explains Steve Hancock. "But it is not just about raw speed," he adds. "Using some of the other algorithms we can make an image to match the quality of current CT scanners but with fewer projections as input, and that means that we can potentially reduce the patient's radiation dose by a factor of 10."

The new software is collected in a repository called the Tomographic Iterative GPU-based Reconstruction (TIGRE) Toolbox, and is available open source. The collaboration hopes their open source approach will create a meeting point for academics and clinicians that will lead to the technology being adopted more widely and further developed.

The software creators benefited from the assistance of CERN's Knowledge Transfer group – known as KT – dedicated to accelerating the transfer of CERN related innovation and whose aim is to maximise CERN's positive impact on society.

"The Knowledge Transfer group helped bring the toolbox to its key stakeholders with a range of activities, from legal advice, licensing, management of the intellectual property, to the dissemination strategy," says Tiago Araujo, KT Officer at CERN, who has been supporting the TIGRE team during the development phase with others.

"The team working on the TIGRE toolbox wanted it to be open source. In the Knowledge Transfer group, we strongly supported this idea, because it could help maximise the impact of their work on society," says Charlyne Rabe, legal advisor in the KT group. "At CERN, we worked together with the University of Bath to ensure that the legal aspects were all in order before release," she adds.

In addition, the TIGRE team was selected for CERN's competitive Knowledge Transfer fund, receiving £58'000, which contributed to the funding and training of a Ph.D. student based in the UK.

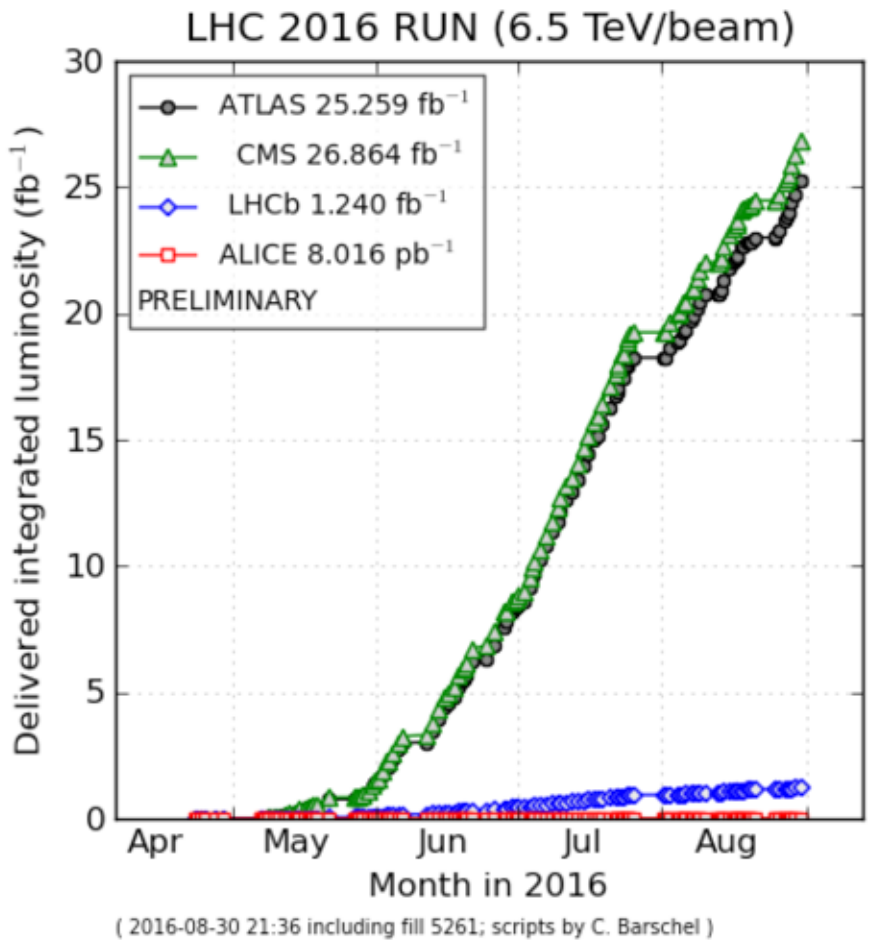
"The support and backing by the research departments at CERN and University of Bath are equally important to make sure this new technology gets out there," says Dr. Paul Collier, head of the Beams department at CERN. The Beams department and the University of Bath contributed £25'000 and £66'000 respectively.

The new toolbox is available under an open software license on GitHub. PhD student Ander Biguri presented the recent results of the TIGRE toolbox during the CERN Early-Career Researchers in Medical Applications talks.

Anaïs Rassat, KT group

LHC REPORT: LHC HIT THE TARGET!

Last week, the accumulated integrated luminosity reached the target value for 2016 of 25 fb^{-1} in both ATLAS and CMS.



The integrated luminosity delivered to ATLAS and CMS reached (and already passed!) 25 fb^{-1} – the target for the whole year!

Tuesday, 30 August was just a regular day for the 2016 LHC run. However, on that day, the integrated luminosity delivered to ATLAS and CMS reached 25 fb^{-1} – the target for the whole year!

How did we get here? A large group of committed scientists and technical experts work behind the scenes at the LHC, ready to adapt to the quirks of this truly impressive machine. After the push to produce as many proton-proton collisions as possible before the summer conferences, several new ideas and production techniques (such as Bunch Compression Multiple Splitting, BCMS) have been incorporated in the operation of LHC in order to boost its performance even further.

Thanks to these improvements, the LHC was routinely operated with peak luminosities 10%-15% above the design value of 10^{34} cm^{-2} s^{-1} in July and August. This is an astounding success, also considering the fact that temporary limitations of the injectors only allow the injection of 2220 bunches per beam instead of the foreseen 2750, and that the LHC's energy is for the moment still limited to 6.5 TeV instead of the nominal 7 TeV.

One of the main reasons behind this wonderful result is the excellent availability of all the elements of the LHC. In July and August, the average availability was of the order of 80%, with almost 50% of the time spent colliding protons in stable beam conditions.

On 18 August, the ATLAS experiment had to ramp down its magnets due to a control fault in the cryogenics plant, requiring five days to get back to normal conditions. As the data recorded without magnetic field is of much less value for the physics analysis, the other experiments agreed to reshuffle the LHC schedule and bring forward several machine studies planned for the following week.

The accelerator team is now very busy gearing up for the season finale, where forward proton-proton physics and proton-lead physics will replace the familiar proton-proton physics.

Before switching to proton-lead however, there are six weeks of proton-proton physics still ahead and we can look forward to a very successful year for the LHC and its experiments.

Enrico Bravin for the LHC team

A PROFESSIONAL CULTURE AT CERN

James Purvis, Human Resources Department Head, on breaching CERN's Code of conduct.

The richness of our Organization comes from our people; with diverse cultures, backgrounds and interests, we are able to achieve the incredible – pushing the frontiers of knowledge. Regrettably, the behaviour of some members of our community occasionally undermines our collective ambitions and the opportunity we have to work at CERN. Currently, the senior management, HR, computer security, legal service and communications teams are managing the consequences of the actions of a small group of individuals, which is having significant and widespread repercussions for our Organization – from queries about our conduct, culture & security through to potentially more politically delicate questions.

Despite our relaxed and informal campus atmosphere we are professional people, working in a professional environment. Maintaining CERN's unique character requires respect for each other and for the communities that support CERN and its work. This is why we have a Code of conduct, applicable to anyone on the CERN site. Any behaviour, which can have a detrimental impact on how our Organization is perceived by our neighbours, our Member States and the wider international community, and hence could impact eventually on CERN's reputation and fate, shall not be tolerated.

When each of us start work on the CERN site, we sign a contract agreeing to abide by the Organization's rules and regulations. Though prefaced by the word "staff", these rules and regulations apply to all members of personnel: staff, fellows, users, students, etc. This contractual document states: "Members of the personnel shall conduct themselves with due regard to the interests and proper functioning of the Organization" [S I 3.01 Conduct]. Misconduct, including misuse of CERN premises and bringing disrepute to CERN's name and the integrity of the Organization's professional activities, can therefore result in disciplinary action. In addition, all users of CERN computing networks sign the CERN computing rules stating that "the use of CERN computing facilities must cause no material or moral damage to the Organization, nor disrupt their operation." In reference to this particular case, we are continuing investigations that could lead to disciplinary measures for the people involved.

We are all ambassadors for CERN, even when outside of our day-to-day work, e.g. on social media. Let's focus our passion for working at such a unique place into collaborating together, to uphold CERN's values of respect, integrity, commitment, professionalism, diversity and scientific creativity.

Find the CERN Code of conduct on: ***cern.ch/go/pr8t***.

This text has been published on 23 August 2016.

James Purvis

ROMANIA'S FLAG RAISED AT CERN

A ceremony was held for the raising of the Romanian flag alongside the flags of CERN's 21 other Member States.

The Romanian flag is raised alongside the flags of CERN's other Member States, in the presence of the Romanian President, CERN's Director-General, the President of the CERN Council and a large Romanian delegation. (Image: Maximilien Brice/ Sophia Bennett/CERN)

On Monday, 5 September, the Romanian flag was raised in front of CERN for the first time, marking the country's accession to Membership of the Organization. The blue, yellow and red flag joined those of the other 21 Member States of CERN in a ceremony attended by the President of Romania, Klaus Iohannis, the Romanian Minister for Education and Scientific Research, Mircea Dumitru, and several other members of the President's office, the government and academia in Romania. The country officially became a CERN Member State on 17 July 2016, after 25 years of collaboration between the Laboratory and Romania's scientific institutes.

"It is a great pleasure to extend a warm welcome to Romania as it joins the increasingly large CERN family!", said Fabiola Gianotti, CERN's Director General.

"I am so happy that Romania has demonstrated today that, after the requisite due diligence and careful deliberation, it is still possible for nations to join forces on important issues in full, whole-hearted consensus", said Sijbrand de Jong, the President of CERN Council.

"Romania is very proud to join the CERN community. We are confident that our country's membership represents international recognition of the excellence of the Romanian research and scientific community and of its remarkable results", said the President of Romania.

After the ceremony, the delegation visited S'Cool Lab, CERN's laboratory for school pupils, took a tour of the LHC and ATLAS, one of the experiments in which Romanian institutes participate, and met Romanian scientists.

Corinne Pralavorio

Computer Security

WHITE HATS FOR CERN

CERN is under attack. Permanently. Even right now. In particular, the CERN web environment, with its thousands of websites and millions of webpages, is a popular target for evil-doers as well as for security researchers.

Usually, their attacks are unsuccessful and fade away over time. Sometimes, however, they are successful and manage to break into a CERN website or web server… It is imperative that we learn about our weaknesses before others do – and fix them!

Hackers with bad intentions are usually named "black hats" as they misuse their power to cause destruction or downtime via any weakness they can find. "Grey hats" are more moderate and might just have some fun with the weaknesses they find, for example by putting naked teddy bears or a personal message (such as "I hacked U") on the compromised website. Last but not least, "white hats" report their findings directly to us and suggest that we take action – and we quickly comply! We want more white hats, so in 2015 we teamed up with a number of universities worldwide and created the CERN WhiteHat Challenge. Following dedicated lectures on ethics and security assessment techniques, students of those universities studying cyber security are entitled to perform penetration tests on CERN's websites. It is a triple win as the students get to practise on live production systems, their professors don't need to create an artificial testing environment, and CERN learns early on about vulnerabilities and weaknesses in its webpages. This has worked out well so far: students from the Universities of Rotterdam, Kent and FH St. Pölten have already reported their findings to us. Other universities are preparing for their students to take part this semester.

You might be wondering why we limit this programme to external people. We don't! The CERN WhiteHat Challenge is also open to CERN employees and users who want to develop their penetration testing and vulnerability scanning skills. No in-depth technical expertise is needed – all you need is motivation. However, it is mandatory to take dedicated training courses covering ethics, web technologies, and an introduction to penetration testing and exploitation. This initial training cycle is complemented by in-depth courses on different subjects (e.g. cross-site scripting, command line injection) given at regular intervals.

If you are a member of CERN's personnel and want to help us secure our web environment by becoming an official CERN white hat, please subscribe to this e-group **(cern.ch/go/6SLp)** and we will invite you to one of the next white hat courses in autumn 2016.

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/monthly_reports.shtml***

Stefan Lueders, Computer Security Team

Ombud's Corner

THE GIFT OF FEEDBACK

Dealing with feedback is an essential part of any learning process. Taking into account other people's perceptions of what we do or say can be a very valuable insight into ways in which we can develop and improve our performance. However, knowing how to give feedback does not come naturally, and we can all gain from developing this skill.

In the workplace, feedback can be considered a gift when delivered with positive intent and empathy. It is a two-way process and everyone – supervisors and staff alike – can benefit from listening to feedback from others. Giving feedback effectively, however, can sometimes present a challenge, and it is certainly in everyone's interest to invest in learning how to deliver honest and appropriate messages in the most constructive way possible. Feedback is often of a sensitive nature and it can backfire badly if it is delivered at the wrong time (e.g. too late) or in the wrong place (e.g. during team meetings as opposed to face-to-face situations), where it can be perceived as unspecific and unconstructive criticism, which inevitably leads to frustration or even anger.

Anna is John's Group Leader. She is surprised when John asks to see her to complain about the recent appointment of another colleague to a project leadership role that he believes should have been assigned to him. He cannot understand this choice as he is clearly the most technically qualified in the team and the only explanation that he has managed to get from his Section Leader is that "the selection is made on the basis of a combination of factors". He does not understand what these factors might be… all he sees is that once again the leadership role is given to someone else and he is left "doing all the work".

When he complains that the new Project Leader is incapable of taking decisions without turning to him for information and advice, his Section Leader shouts at him, saying that it is high time that he stopped moaning and started behaving like a team player.

However difficult it may sometimes be to deliver what one fears to be unwelcome feedback, giving vague or no feedback at all is not an acceptable option for supervisors. If supervisees are left with no explanation as to why a decision has been taken, it should come as no surprise to discover that they feel demotivated; losing one's temper and

shouting at them only serves to aggravate the situation further.

Anna asks John to explain his frustrations and learns that this is not the first time that he feels that he has been unjustly denied a leadership role for which he genuinely believes himself to be the best candidate. She explains her vision of what the role requires and takes the time to give him a few concrete examples of why she believes that his competencies are better suited to the role of technical expert. She recommends that he focus on this aspect and suggests a couple of areas that he might explore in order to see how he might develop his competence further. John thanks her, and leaves feeling much more valued for his role as technical troubleshooter and specialist in the team.

With that, Anna could choose to consider the situation resolved but she does not stop there. She follows up this discussion by calling a meeting with John's Section Leader, where she raises the question of his responsibilities as a manager – reminding him that he is accountable not only for the team results but also for the development and well-being of his staff. She stresses the fact that this includes the need to provide colleagues with appropriate feedback, and offers him her support, whether that be through formal training or any other means of his choice.

Everyone is entitled to honest feedback on how they are perceived – be they in supervisory or staff roles – but delivering such messages can sometimes prove to be a daunting prospect. Acknowledging the need to develop these skills and taking appropriate action are the first steps towards overcoming an initial reluctance to convey a difficult message. When feedback is specific and timely, however, and it is accompanied by a genuinely positive intention, it is much easier to overcome our defences and accept it for the gift that it brings.

All previous Ombud's Corners can be accessed in the Ombud's blog.

Sudeshna Datta-Cockerill

ERWIN GABATHULER (1933 - 2016)

It was with great sadness that we learned last week that Erwin Gabathuler passed away on 29 August.

Erwin Gabathuler discussing the NA2 experiment in 1977.

A native of Belfast, Gabathuler embarked on a research career into the study of atmospheric gases at Queen's University in the mid-1950s. It is particle physics' gain and atmospheric science's loss that he commuted his PhD studies to an MSc after one year and moved to Glasgow to study pions at Glasgow's 300 MeV synchrotron. In 1961, with his doctorate under his belt, he moved to Cornell University as a research associate, returning to the UK in 1964 where he joined the Daresbury laboratory and played a major role in establishing the experimental programme at the laboratory's 5 GeV synchrotron, NINA.

Gabathuler's association with CERN began in 1974, when he came to the laboratory to work on a proposal to do physics with a 300 GeV muon beam in the North Area. This proposal became the European Muon Collaboration, EMC. Muon experiments have run almost uninterrupted in the North Area since the first EMC experiment got underway in 1978, and have brought us great insights into the internal structure and dynamics of nucleons and nuclei. The muon programme continues today under the guidance of the COMPASS collaboration. In 1978, Gabathuler was appointed head of CERN's EP Division and went on to become Research Director in 1981.

In 1983 he was appointed to a chair in physics at the University of Liverpool and became Head of the Particle Physics group in the Department of Physics, a position he was to hold until his retirement in 2002. During this period, he established a thriving particle physics group at the University with participation in many important experiments globally. As particle physics moved into the collider era, he steered Liverpool into the H1 and HERMES experiments at DESY, and nurtured the group's growing contribution to the DELPHI experiment at CERN. His interest in symmetry led him to drive forward the construction and physics of the CPLEAR experiment at CERN, and he later initiated a Liverpool group working on the BaBar experiment at Stanford. Before Liverpool marked his retirement with an 'Erwinfest' in 2002, he had guided the Liverpool group into the LHC experiments ATLAS and LHCb, for which the group developed considerable expertise in silicon tracker technology.

Those who knew him remember a great experimental physicist and an effective leader who showed genuine concern for the wellbeing and development of all in his charge.

His colleagues and friends

INDIVIDUAL BREAKDOWN OF PENSION RIGHTS

You should have recently received, via email, your "Individual breakdown of pension rights".

Please note that:

- the calculation was based on data as at 1st July 2016,
- as at 1st September 2016, CERN will introduce a new career structure; the salary position will now be expressed as a percentage of a midpoint of a grade.

We would like to draw your attention to the fact that **your pension rights will remain unchanged.**

Benefits Service
CERN Pension Fund

ANNUAL INFORMATION MEETING OF THE PENSION FUND | 26 OCTOBER

All members and beneficiaries of the Pension Fund are invited to attend the Annual Information Meeting of the Pension Fund.

Meeting to be held in
the Main Auditorium
on Wednesday 26 October 2016
from 9:30 a.m. to 11:30 a.m.

Following a presentation by the Chief Executive Officer of the Fund there will be a Questions and Answers session. Members and Beneficiaries are welcome to send questions **in advance of the meeting** by post to:

Mr Matthew Eyton-Jones
"Annual Information Meeting"
CEO
CERN Pension Fund
Office 5-5-012, Postbox C23800
CH- 1211 Geneva 23 - Switzerland

Copies of the 2015 Pension Fund Annual Report & Financial Statements are already available in accessible PDF on the Pension Fund website and will also be distributed at the annual meeting.

Coffee and croissants will be served prior to the meeting as of 9:00 a.m.

ELECTIONS TO THE SENIOR STAFF ADVISORY COMMITTEE ("THE NINE") 2016

The electronic voting process for the Senior Staff Advisory Committee ("The Nine") was closed on Monday 22 August 2016 at 23:59.

Of the 544 Senior Staff members eligible to vote, 270 voted. This represents a participation of 50% to be compared to 52% in 2015, to 59% in 2014, 63% in 2013, 61% in 2012, 43% in 2011, 44% in 2010, 57% in 2009, 53% in 2008, 63% in 2007, and 64% in 2006. The results are:

- Total votes: 270
- Valid votes: 268 (of which 4 blanks)
- Null votes: 2

Electoral group 1 (Research Physicists)

Candidate	Dept	Votes	Result
David Enterria	EP	31	
Andreas Hoecker	EP	107	ELECTED

Electoral group 2 (Applied Physicists, Engineers, Computer Scientists)

Candidate	Dept	Votes	Result
Latchezar Betev	EP	16	
Maria Dimou	IT	34	
Vittorio Parma	TE	86	ELECTED
Achille Petrilli	EP	37	
Wayne Salter	IT	75	

Electoral group 3 (Administration, Human Resources, Finance and Purchasing)

Candidate	Dept	Votes	Result
Andrzej Charkiewicz	EP	62	
Geneviève Guinot	HR	139	ELECTED

The elected persons are Andreas Hoecker for Electoral group 1, Vittorio Parma for Electoral group 2 and Geneviève Guinot for Electoral group 3. Their mandate is from September 2016 to August 2019.

The Committee will now consist of these newly elected members together with [end of mandate in brackets]:

François BRIARD (IR) [2018]
Marco Cattaneo (EP) [2018]
Raymond Veness (BE) [2018]
Maurizio Vretenar (ATS) [2018]
Urs Wiedemann (TH) [2017]
Jorg Wenninger (BE) [2017]

The new spokesperson for the Nine is Urs Wiedemann.

My sincere congratulations to all the new elected members. I would also like to thank all other candidates for standing for election, as well as Alberto Pace, the Polling Officer.

Malika Meddahi, ex-spokesperson of the Nine

113TH ACCU MEETING

Agenda for the meeting to be held on Tuesday, 6 September 2016 at 9.15 a.m. in room Georges Charpak (Room F, 60-6-015).

1. Chairperson's remarks
2. Adoption of the agenda
3. Minutes of the previous meeting
4. News from the CERN Management
5. Report on services from SMB Department
6. Report on services from IT Department
7. The International School Ferney-Voltaire / St. Genis
8. The CERN Alumni Project
9. Changes in rules to obtain dosimeters
10. Changes of CHIS health insurance rules for MPAs
11. Matters arising
12. Any Other Business
13. ACCU meetings 2017
14. Agenda for the next meeting

The **Advisory Committee of CERN Users (ACCU)** is a forum for discussion between the CERN Management and representatives of the CERN Users in order to review the practical means taken by CERN to support the work of Users of the Laboratory. The User Representatives to ACCU are:

- **Austria** M. Jeitler **(manfred.jeitler@cern.ch)**
- **Belgium** M. Tytgat **(michael.tytgat@cern.ch)**
- **Bulgaria** N.N.
- **Cyprus** E. Dimovasili **(Evangelia.Dimovasili@cern.ch)**
- **Czech Republic** S. Nemecek **(Stanislav.Nemecek@cern.ch)**
- **Denmark** J.B. Hansen **(Jorgen.Beck.Hansen@cern.ch)**
- **Finland** K. Lassila-Perini **(Katri.Lassila-Perini@cern.ch)**
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- **Germany** K. Rabbertz **(Klaus.Rabbertz@cern.ch)** and I. Fleck **(fleck@hep.physik.uni-siegen.de)**
- **Greece** D. Sampsonidis **(Dimitrios.Sampsonidis@cern.ch)**
- **Hungary** V. Veszprémi

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- **Portugal** F. Barão **(Fernando.Barao@cern.ch)**
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- **Serbia** D. Lazic (**Dragoslav.Lazic@cern.ch**, Chair)
- **Slovak Republic** A. Dubnická **(Anna.Dubnickova@cern.ch)**
- **Spain** S. Goy **(Silvia.Goy@cern.ch)**
- **Sweden** E. Lytken **(Else.Lytken@cern.ch)**
- **Switzerland** M. Dittmar **(Michael.Dittmar@cern.ch)**
- **Turkey** N.N.
- **United Kingdom** R. Jones **(Roger.Jones@cern.ch)** and H. Hayward **(helen.hayward@cern.ch)**
- **Non-Member States** U. Mallik **(usha-mallik@uiowa.edu)**, H. Zaraket **(hzaraket@ul.edu.lb)**, M. Sharan **(manoj.kumar.sharan@cern.ch)** and N. Zimine **(Nikolai.Zimine@cern.ch)**
- **CERN** W. Lerche **(Wolfgang.Lerche@cern.ch)** and M. Ferro-Luzzi **(Massimiliano.Ferro-Luzzi@cern.ch)**

ACCU meetings are attended by the Director General and members of the Directorate, other members of the CERN management and departmental representatives, the Head of the Users' Office and a representative of the CERN Staff Association. Other members of the CERN Staff attend as necessary for specific agenda items.

Chairperson: Dragoslav-Laza Lazic **(Dragoslav.Lazic@cern.ch)**
Secretary: Michael Hauschild **(ACCU.Secretary@cern.ch)**

Anyone wishing to raise any points under "Any Other Business" at the upcoming ACCU meeting is invited to contact the appropriate User representative, or the Chairperson or the Secretary.

http://cern.ch/ph-dep-ACCU/

STAFF RULES AND REGULATIONS - MODIFICATION NO. 11 TO THE 11TH EDITION

The following modifications to the Staff Rules and Regulations have been implemented:

- In the framework of the Five-Yearly Review 2015, in accordance with the decisions taken by the Council in December 2015 (CERN/3213), relating to the **new CERN career structure;**
- In accordance with the decisions taken by the Council in June 2016 (CERN/3247), relating to the **status of apprentices** and the remaining technical adjustments.

The modifications relating to the status of apprentices have entered into force on 1st August 2016 and those relating to the new CERN career structure and the technical adjustments will enter into force on 1st September 2016.

- Preliminary Note, Contents - *amendment of page iv.*
- Chapter I, General Provisions
  - Section 2 (Categories of members of the personnel) - *amendment of pages 2 and 3.*
- Chapter II, Conditions of Employment and Association
  - Section 1 (Employment and association) - *amendment of pages 11, 12, 13, 14 and 15.*
  - Section 2 (Classification and merit recognition) – *amendment of pages 16, 17 and 18.*
  - Section 3 (Learning and development) - *amendment of pages 19 and 20.*
  - Section 4 (Leave) - *amendment of pages 21, 22, 23, 25 and 26.*
  - Section 5 (Termination of contract) - *amendment of page 29.*
- Chapter III, Working Conditions
  - Section 1 (Working hours) – *amendment of pages 30, 31 and 32.*
- Chapter IV, Social Conditions
  - Section 1 (Family and family benefits) - *amendment of pages 37 and 38.*
  - Section 2 (Social insurance cover) - *amendment of pages 39 and 40.*
- Chapter V, Financial conditions
  - Section 1 (Financial benefits) – *amendment of pages 41, 42, 43, 45, 46 and 47.*
- Chapter VI, Settlement of Disputes and Discipline
  - Section 1 (Settlement of disputes) - *amendment of page 50.*
  - Section 2 (Discipline) – *amendment of pages 55, 56, 57 and 58.*
- Annex A1 (Periodic review of the financial and social conditions of members of the personnel) – *amendment of page 62.*
- Annex RA1 (General definition of career paths) – *page 66 is deleted.*
- Annex RA2 (Financial awards) - *amendment of page 67.*
- Annex RA5 (Monthly basic salaries of staff members) - *amendment of page 71.*
- Annex RA8 (International indemnity) – *amendment of page 74.*
- Annex RA9 (Installation indemnity) – *amendment of page 75.*
- Annex RA10 (Reinstallation indemnity) – *amendment of page 76.*

The complete updated electronic version of the Staff Rules and Regulation will be accessible via CDS on 1st September 2016.

HR Department

ADMINISTRATIVE CIRCULAR NO. 13 (REV. 4) - GUARANTEES FOR REPRESENTATIVES OF THE PERSONNEL

Administrative Circular No. 13 (Rev. 4) entitled *"Guarantees for representatives of the personnel",* approved by the Director-General following discussion in the Standing Concertation Committee meeting on 22 March 2016, will be available on 1st September 2016 via the following link: https://cds.cern.ch/record/2208527.

This revised circular cancels and replaces Administrative Circular No. 13 (Rev. 3) also entitled *"Guarantees for representatives of the personnel"* of January 2014.

This document contains a single change to reflect the terminology under the new career structure: the term *"career path"* is replaced by *"grade"*.

This circular will enter into force on 1st September 2016.

Department Head Office - HR Department

ADMINISTRATIVE CIRCULAR NO. 22B (REV. 2) - COMPENSATION FOR HOURS OF LONG-TERM SHIFT WORK

Administrative Circular No. 22B (Rev. 2) entitled *"Compensation for hours of long-term shift work",* approved by the Director-General following discussion in the Standing Concertation Committee meeting on 22 March 2016, will be available on 1st September 2016 via the following link: https://cds.cern.ch/record/2208538.

This revised circular cancels and replaces Administrative Circular No. 22B (Rev. 1) also entitled *"Compensation for hours of long-term shift work"* of March 2011.

This document contains minor changes to reflect the new career structure.

This circular will enter into force on 1st September 2016.

Department Head Office - HR Department

ADMINISTRATIVE CIRCULAR NO. 23 (REV. 4) - SPECIAL WORKING HOURS

Administrative Circular No. 23 (Rev. 4) entitled *"Special working hours"*, approved by the Director-General following discussion in the Standing Concertation Committee meeting on 22 March 2016, will be available on 1st September 2016 via the following link: https://cds.cern.ch/record/2208539.

This revised circular cancels and replaces Administrative Circular No. 23 (Rev. 3) also entitled *"Special working hours"* of January 2013.

This document contains modifications to reflect the new career structure and ensuring the provision consistent with practice that compensation or remuneration of special working hours performed remotely is possible only in case of emergency.

This circular will enter into force on 1st September 2016.

Department Head Office - HR Department

ADMINISTRATIVE CICULAR NO. 31 (REV. 2) - INTERNATIONAL INDEMNITY AND NON-RESIDENT ALLOWANCE

Administrative Circular No. 31 (Rev. 2) entitled *"International indemnity and non-resident allowance"*, approved by the Director-General following discussion in the Standing Concertation Committee meeting on 23 June 2016, will be available on 1st September 2016 via the following link: https://cds.cern.ch/record/2208547.

This revised circular cancels and replaces Administrative Circular No. 31 (Rev. 1) also entitled *"International indemnity and non-resident allowance"* of October 2007.

The main changes reflect the decision taken in the framework of the five-yearly review to extend eligibility for international indemnity to all staff members, as well to introduce a distinction between current staff members and those recruited as from 1st September 2016. For the latter, the international indemnity will be calculated as a percentage of the minimum salary of the grade into which they are recruited; the amount granted to the former will not change, and is now expressed as a percentage of the midpoint salary of the grade corresponding to their career path at the time of recruitment.

This circular will enter into force on 1st September 2016.

Department Head Office - HR Department

Formations

"HABILITATION ÉLECTRIQUE - ELECTRICIAN LOW VOLTAGE - INITIAL" COURSE IN OCTOBER

The next session of the course "Habilitation électrique - Electrician Low Voltage - Initial" will be given, in French, from 03 to 05 October 2016.

This course is designed for anyone required to safely perform operations on electrical installations and equipment at low voltage to comply with the requirements of the NF C 18 510 standard. Grade of authorisation: B1-B1V-B2-B2V-BR-BC.

There are places available. If you are interested in following this course, please fill in your EDH training request via our classroom course catalogue CTA: **cern.ch/go/VTR6**.

Safety Training, HSE Unit

UPCOMING TRAINING SESSIONS (UP TO END OCTOBER) - PLACES AVAILABLE

Please find on bulletin.cern.ch a list of training sessions scheduled to take place up to the end of October with places available.

Safety and Language courses are not included, you will find an up-to-date list in the Training Catalogue: **cern.ch/go/GrC6**.

If you need a course which is not featured in the catalogue, please contact one of the following: your supervisor, your Departmental Training Officer or the relevant learning specialist.

REGISTER NOW FOR ISOTDAQ 2017

The International School of Trigger and Data Acquisition (ISOTDAQ) 2017 is the eighth in a series of International Schools dedicated to introducing MSc and PhD students to the "arts and crafts" of triggering and acquiring data for physics experiments.

The main aim of the school is to provide an overview of the basic instruments and methodologies used in high energy physics, spanning from small experiments in the lab to the very large LHC experiments, emphasising the main building blocks as well as the different choices and architectures at different levels of complexity. About half of the school time will be dedicated to laboratory exercises where the students are exposed to most of the techniques described in the lectures.

The 8th International School of Trigger and Data Acquisition will be held in the Amsterdam Science Park at Nikhef (the National Institute for Sub-atomic physics) Amsterdam, The Netherlands. Lectures, the hands on exercises, breakfast, lunch and coffee breaks will be held in the Institute.

Accommodation is within cycling distance, or convenient public transportation, at the Hotel Eden Lancaster.

Since places are limited, acceptance to the school is by a selection committee.

Apply on cern.ch/go/crF6
Applications are accepted until November 1st, 2016.

Find out more about the school on: ***cern.ch/go/7pQc****.*

Hannes Sakulin, on behalf of the organisers

UNIGE IN SPACE... HUNTING ASTROPARTICLES

Switzerland has a long history of involvement in cosmic-ray physics and space research projects: some of the most notable examples are its pioneering research since the beginning of the 20th century; its co-founding of major European space organisations; its provision of state-of-the-art scientific equipment to major international space agencies and the missions of a Swiss astronaut in the 1990s.

The Alpha Magnetic Spectrometer (AMS) project, whose control centre is at CERN, has benefitted from the cutting-edge knowhow of the Nuclear and Corpuscular Physics Department (DNPC) of the University of Geneva (UNIGE). An extremely sensitive, high-resolution spectrometer was built for the project and was installed on the International Space Station (ISS) in 2011. The DNPC was responsible for designing the particle tracker – the device at the heart of both the AMS 01 prototype and the final model sent into space, AMS 02. The aim of this research project is to advance humankind's knowledge of the particles observed directly in space. UNIGE physicists are following its progress closely by participating in the scientific analysis of the data collected.

Physicists around the world are still curious to know where all the antimatter has gone. The Big Bang theory predicts that matter and antimatter existed in equal quantities in the very early universe. So far, we have been able to exclude the presence of large quantities of antimatter around our galaxy cluster, but what about the rest of the universe? By hunting astroparticles, physicists hope to find some small trace of primordial antimatter – if it still exists and if we can build detectors and send them off to find it in the middle of the universe!

Find out all about this exciting cutting-edge research, in which UNIGE plays a leading role.

- ***« L'UNIGE dans l'espace… à la chasse des astroparticules »***
  An exhibition on cosmic rays hosted by the Nuclear and Corpuscular Physics Department.
  UNIGE exhibition hall (SEU) - Uni Carl Vogt - 66 Boulevard Carl-Vogt.
  From 18 August to 30 September, Monday to Friday from 8 a.m. to 7 p.m.
  Free entry.
  Guided tours of the exhibition will be available from 12.30 to 1.30 p.m. on Thursday, 25 August and Tuesday, 27 September. Register on: **cern.ch/go/b8xm**.

- **Tour of the AMS Control Centre at CERN** – the only control centre linked to the International Space Station (ISS) based outside NASA.
  Thursday, 15 September at lunchtime (exact time to be confirmed).

- **Broadcast of the launch of the astroparticle detector POLAR**
  Sunday, 18 September in the UNIGE exhibition hall (SEU) - Uni Carl Vogt - 66 Boulevard Carl-Vogt.
  The exact time will be confirmed a few days before the event and may be changed at short notice.

- **"The Cosmos is the Ultimate Laboratory",** a lecture by Samuel Ting, Nobel laureate in physics and head of the AMS experiment.
  Tuesday, 27 September at 6.30 p.m. in the auditorium of the *Musée d'Ethnographie de Genève* (MEG). Register on: **cern.ch/go/9QLv**.

Visit the website of the event on: ***cern.ch/go/N6vs****.*

ICE-DIP CLOSING WORKSHOP - PUBLIC SESSION | 14 SEPTEMBER

ICE-DIP, the Intel-CERN European Doctorate Industrial Program, is a European Industrial Doctorate scheme led by CERN. The focus of the project, which launched in 2013, has been the development of techniques for acquiring and processing data that are relevant for the trigger and data-acquisition systems of the LHC experiments.

The results will be publicly presented in an open session on the afternoon of 14th September. Building on CERN's long-standing relationship with Intel through CERN openlab, ICE-DIP brings together CERN, Intel and research universities to offer training to five PhD students in advanced information and communication technologies (ICT).

These young researchers have been funded by the European Commission as fellows at CERN and enrolled in doctoral programmes at the National University of Ireland Maynooth and Dublin City University. They have each completed 18 month secondments at Intel locations around the world gaining in-depth experience of the very latest generations of Intel hardware.

Discover the results of the exciting work carried out by these researchers and the possible impact for LHC data acquisition

systems at next month's ICE-DIP closing workshop.

The public session will take place on **Wednesday 14 September from 14:00 to 18:30 CEST**. It will be held **in 513-1-024**. For more information, please visit the Indico page. Registration for the public session will be open until noon (CEST) on Monday 12 September. You will also be able to follow the event live via the CERN webcast service.

CERN LIBRARY | PAULINE GAGNON PRESENTS THE BOOK "WHO CARES ABOUT PARTICLE PHYSICS? : MAKING SENSE OF THE HIGGS BOSON, THE LARGE HADRON COLLIDER AND CERN" | 15 SEPTEMBER

"Who cares about particle physics? : making sense of the Higgs boson, the Large Hadron Collider and CERN ", by Pauline Gagnon.

Thursday 15 September 2016,
16:00 - 17:30
in the CERN Library (Bldg 52 1-052)

Coffee will be served at 15:30

CERN, the European Laboratory for particle physics, regularly makes the news. What kind of research happens at this international laboratory and how does it impact people's daily lives? Why is the discovery of the Higgs boson so important? Particle physics describes all matter found on Earth, in stars and all galaxies but it also tries to go beyond what is known to describe dark matter, a form of matter five times more prevalent than the known, regular matter. How do we know this mysterious dark matter exists and is there a chance it will be discovered soon? About sixty countries contributed to the construction of the gigantic Large Hadron Collider (LHC) at CERN and its immense detectors. Dive in to discover how international teams of researchers work together to push scientific knowledge forward. Here is a book written for every person who wishes to learn a little more about particle physics, without requiring prior scientific knowledge. It starts from the basics to build a solid understanding of current research in particle physics. A good dose of curiosity is all one will need to discover a whole world that spans from the infinitesimally small and stretches to the infinitely large, and where imminent discoveries could mark the dawn of a huge revolution in the current conception of the material world.

"Who cares about particle physics", by Pauline Gagnon, Oxford University Press, 2016, ISBN 9780198783244.

For more information: ***https://indico.cern.ch/event/564013/****.*

CERN Library

CMS CREATE #2 | 3-4 OCTOBER | REGISTER NOW!

CMS Create brings together CERN members and students from IPAC Design Genève. The goal is to build a prototype exhibit illustrating what CMS does and how it does it. The exhibit will introduce the world of a particle physics detector to the general public, and to younger visitors in particular.

CMS Create, hosted by IdeaSquare, was first held in November 2015. There were 4 highly diverse teams made of participants from many educational backgrounds and from 15 nationalities. 36% of these were women; a figure we hope will grow this year.

The 25 participants were CMS physicists, computer scientists, engineers, other CMS collaborators and IPAC students. The 2015 winning exhibit is now permanently installed in the visitor reception centre at CMS Point 5, which was visited by 20.600 visitors during 2015.

Are you creative and motivated to share your ideas? Take part in CMS Create #2, meet with scientists and designers from all over the world and explain to CERN visitors how CMS functions. **CMS Create #2 will take place at IdeaSquare on 3 - 4 October 2016. The application period is open until 23 September 2016.**

The competition will be judged by a panel consisting of physics, tourism, and product design professionals. There are various prizes for the winning team including tickets for the next TEDxCERN event and ski passes. **A public presentation of all exhibits built during CMS Create #2 will be held at CERN in the Main Auditorium on the 10 October at 16:30.**

Take part!

Seminars

TUESDAY, 13 SEPTEMBER 2016

08:00 **Special Event** Beamline for Schools
11:00 **EP Seminar** Recent results and future perspectives on the measurement of the electron-neutrino mass **Main Auditorium**

THURSDAY, 15 SEPTEMBER, 2016

07:00 **Safety** Beamline for schools 2015 - Safety Day
08:30 **Safety** Beamline for schools 2016 - Safety Day

FRIDAY, 16 SEPTEMBER, 2016

11:00 **Detector Seminar** Silicon Photonics for High Energy Physics Applications, Myth or Reality **BE Auditorium Meyrin**

TUESDAY, 20 SEPTEMBER, 2016

08:30 **Quarterly induction** HR INDUCTION PROGRAMME - 2nd Part **Council Chamber**
11:00 **EP Seminar** Latest results of the Double Chooz experiment **Main Auditorium**