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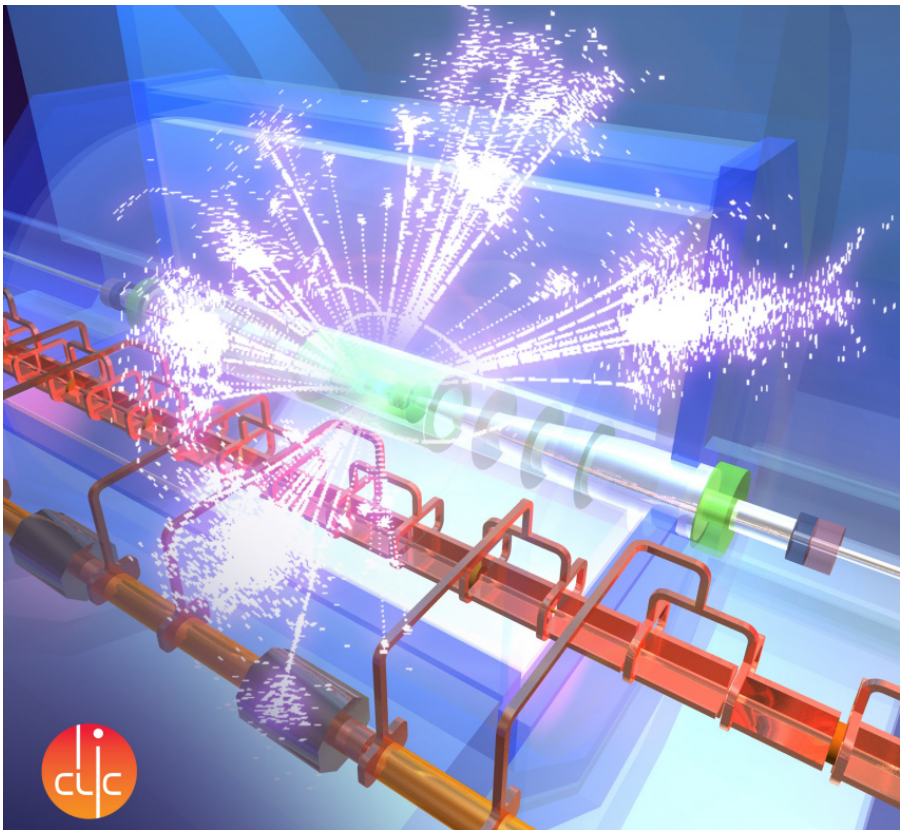
CLIC's three-step plan



In early October, the Compact Linear Collider (CLIC) collaboration published its final Conceptual Design Report. Accompanying it was a strategic summary document that describes a whole new approach to the project: developing the linear e^+e^- collider in three energy stages. Though CLIC's future still depends on signs from the LHC, its new staged approach to high-energy electron-positron physics for the post-LHC era is nothing short of convincing.

Instead of asking for a 48-kilometre-long commitment right off the bat, the CLIC collaboration is now presenting an accelerator that can be constructed in stages. For example, it could begin as an 11-kilometre 500 GeV accelerator that could later be extended to a 27-kilometre 1.5 TeV machine. Finally, after a decade or so of data taking, it could be taken up to the full 48-kilometre 3 TeV facility (see image 2 on page 2). "Not only is the approach technically and financially practical, it also offers a very convincing physics programme," explains Lucie Linssen, who is leading CERN's Linear Collider Detector project. "Each stage of the machine could be optimized to probe different physics issues: at the initial 500 GeV stage, CLIC would be optimised for Higgs physics and top physics; when it is brought up to higher energies it could then look for signs of rarer Higgs decays, dark matter, supersymmetry and other new physics (see image 3 on page 2)."

(Continued on page 2)

Towards a wider dialogue

This week, I had the rewarding experience of taking part in a Wilton Park meeting examining three very different world-views: science, philosophy and theology. Wilton Park describes itself as a forum for analysing and advancing the agenda on global policy challenges, and over the years it has developed an enviable reputation for delivering authoritative reports drawn from bringing international experts together under the same roof for two days to discuss issues of topical relevance.

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News

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CLIC's three-step plan

(Continued from page 1)

The report also confirms CLIC technology to be sufficiently flexible and robust to withstand the engineering challenges of this staged approach. Thus, data-taking during the first energy stage and second-stage construction and tunnelling could occur simultaneously, to a large degree. Current schedules – laid out in the report by the same team that scheduled the LHC – would see the 500 GeV stage completed in time for when the LHC programme comes to an end around 2030.

But of course, a possible decision to give the CLIC project the green light is still a few years away. The future of physics is dependent on signs from the LHC, which in addition to recent successes retains a great potential for new physics at higher energies. "The physics argument for a high energy linear collider is not strong enough yet," says Lucie. "While certain interesting Higgs processes – such as the Higgs self-coupling – would require these high energies, there have not been sufficient hints of physics beyond the Standard Model from the LHC to justify the final energy needed."

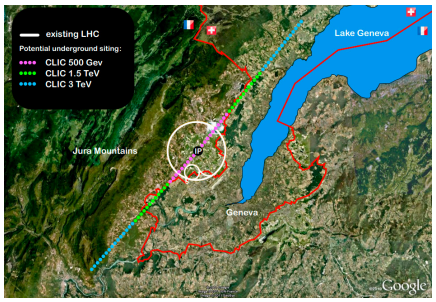


Image 2: Possible CLIC location, showing the three energy stages.

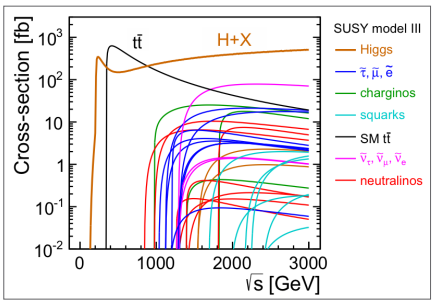


Image 3: Interaction cross-sections for an exemplar SUSY model, SM Higgs boson (with mass 125 GeV) and SM top physics as a function of e^+e^- centre-of-mass energy.

However, should the LHC see signs of new physics, the CLIC accelerator could be the optimal project on the drawing board capable of reaching the energy levels needed. "We still hope and believe that the LHC will see more indications of physics beyond the Standard Model," concludes Lucie. "Once the LHC has run at full energy for a few years, we should be in a position to decide how CLIC might fit into the global physics programme."

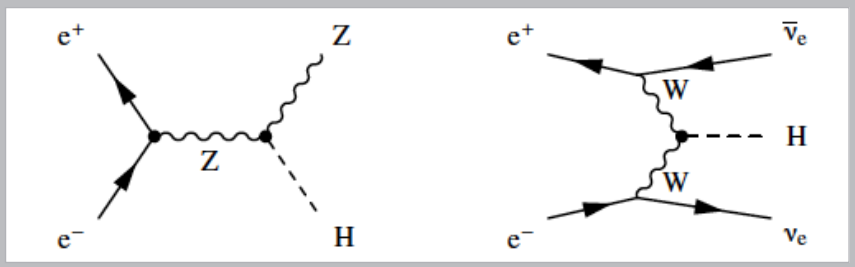
Katarina Anthony

Electron-positron physics: a powerful investigative tool

The advantage of an electron-positron collider is simple: precision. By colliding well-understood base particles, physicists will gain access to decays that are difficult to see at the LHC.

One example is ZH production, also known as the "Higgs-strahlung". At CLIC, the properties of the colliding electrons and positrons are known with high precision, and the resulting Z particle can be measured with matching precision. Thus, physicists would be able to deduce the Higgs mass and its coupling to other particles in a model independent way. And if an unknown particle were to enter into the equation – say, a candidate for dark matter – it would be easily and accurately spotted.

Another example is the one of the most produced Higgs decays: a Higgs into b-bbar. In practice, this gives just two jets in the detector; so even though this decay is produced frequently at the LHC, background events make it almost impossible for experiments to record it. This decay would be a lot easier to see at CLIC, as there is significantly less background and no trigger selection is needed for reading the detectors out.



In e^+e^- collisions, the Higgs is primarily produced essentially through these two processes. The Higgs-strahlung (left) is the dominant process up to ~500 GeV, though its cross section decreases with centre-of-mass energy increases. The WW-fusion process (right) dominates at higher energies, as its cross section increases with centre-of-mass energy. Very rare Higgs decays also profit at higher centre-of-mass energies, as there is an additional increase in luminosity.

On the horizon for ALICE

Corrado Gargiulo, ALICE's Project Engineer with ITS prototype. The new ITS will consist of 7 layers of silicon sensors supported by a ultra-light carbon fibre structure.

ALICE – the LHC experiment specifically designed to study the physics of the Quark Gluon Plasma (QGP) and, more generally, of strongly interacting matter at extreme energy densities – is planning a series of upgrades during the long shutdowns of the accelerator in the coming years. The new ALICE will have enhanced read-out capabilities and improved efficiency when tracking particles and identifying the vertex of the interactions.

The LHC has been operated with lead ions for only about two months, but this has been sufficient for ALICE and other LHC experiments to produce results that previous accelerators took several years of operation to produce. "Prior to the start-up of the LHC heavy-ion programme, the nature of the QGP as an almost-perfect liquid had already emerged from the experimental investigations at CERN's SPS and at BNL's RHIC," says Paolo Giubellino, ALICE Spokesperson. "The LHC experiments have confirmed and extended this basic picture, observing the creation of hot hadronic matter at unprecedented temperatures, densities and volumes, and exceeding the precision of all relevant measurements performed over the past decade."

To build on this excellent performance, the ALICE collaboration is now seeking to upgrade the detector and enhance its physics capabilities through a significant increase of luminosity that the experiment will be able to deal with. "Our upgrade strategy is formulated under the assumption that, after the second long LHC shutdown in 2018, the luminosity with lead beams will gradually increase to an interaction rate of about 50 kHz," explains Paolo Giubellino. "The new ALICE detector will allow the readout of all interactions and will be able to record 1011 lead-lead interactions at a rate of 50 kHz – about two orders of magnitude higher than the current rate capability."

Besides the partial redesign of the readout electronics, the planned upgrades also include a new beampipe with a smaller diameter; a new Inner Tracking System (ITS); the upgrade of the Time Projection Chamber, where GEM detectors will replace the wire chambers; the upgrade of the forward trigger detectors; and the upgrade of the tools for the online and offline reconstruction of the events. "We are currently testing various solutions for the different upgrades," explains Luciano Musa, ITS Project Leader. "In particular, we are studying two design options for the ITS: pixel detectors only, or pixel and strip detectors combined. We have also built a prototype of the carbon mechanical structure and have carried out stability and thermal tests."

The new silicon tracker will allow ALICE to measure charm and beauty production in lead-lead collisions with unprecedented statistical and systematic accuracy, providing crucial information for the understanding of the dynamics (transport, thermalization, hadronization) of heavy quarks in the QGP state. The new ITS will also play a key role in assessing the initial temperature and degrees of freedom of the QGP, as well as the modalities of the phase transition.

The ALICE upgrade will be carried out in phase with the long LHC shutdowns, in particular the second one scheduled for 2017-2018. A major R&D effort has been launched in view of the upgrade, involving technologies ranging from advanced mechanics and electronics to innovative detection systems and a new approach to data treatment. The challenges are, as usual, exciting and these activities, now in full swing, will continue until 2014.

Antonella Del Rosso

(Continued from page 1)

Towards a wider dialogue

Participation is by invitation and there are no observers: everyone is there because they have something to bring to the discussion. Wilton Park reports always have their finger on the zeitgeist, appropriately, perhaps, for an institution born of Winston Churchill's vision for reconciliation and dialogue in post-war Europe.

When I learned that Wilton Park was running a series of meetings examining the role of religion in modern society, and that it was looking at the possibility of holding an event in Switzerland, I saw an opportunity. At face value, faith and the scientific method are fundamentally incompatible, yet more scientists than theologians have won the Templeton Prize in the 40 years since it was established and many working scientists are also religious, reconciling very different ways of seeing the world in their own minds.

So we worked with Wilton Park to design a meeting that could examine the fundamental question of whether a common linguistic framework could be found, allowing a meaningful conversation to begin between scientists, philosophers and theologians. I rapidly discovered that the task would not be easy. Even apparently simple concepts, such as the meaning of the words 'how' and 'why,' can be interpreted differently. Nevertheless, the meeting was stimulating, and in my opinion, its conclusions will be extremely valuable for science, and for human development. Although religion is a very personal matter, there is no denying that a large fraction of the world's population describes itself as religious. It is my firm belief that whatever we as scientists may think, it is our moral duty to engage in dialogue. To that end, although I do not envy the rapporteur's task, I am looking forward to the Wilton Park report, which should be available in about a month, and the accompanying e-book to follow later.

Rolf Heuer

LHC Report: Ticking over

The past two weeks have seen luminosity production rates vary somewhat but the overall upwards slope has remained steady. Over 17 fb^{-1} have been delivered to both ATLAS and CMS; LHCb is also doing well, with around 1.6 fb^{-1} delivered so far in 2012. The proton physics production also slotted in a five-day machine development period (Monday 8 to Saturday 13 October).

When producing the LHC beam in the PS, some parasitic low-intensity satellite bunches are formed 25 ns from the main bunches, which are spaced by 50 ns. ALICE, whose detector is designed to work with relatively low collision rates, has been taking data from satellite-main collisions. The population of these satellites has recently been increased thanks to gentle tweaks by the PS radio frequency experts. This has increased the peak luminosity in ALICE and will help them to reach their proton-proton integrated luminosity goal for the year.

The October machine development programme was a mixed bag. While some studies were aimed at short-term operational improvements, others concentrated on necessary developments for post-long-shutdown running with 25 ns beam. In the latter category there were: further systematic investigations of beam instabilities; a successful attempt to squeeze to a beta* of 40 cm; and tests by the RF team of a technique to handle the increased power requirements of the 25 ns beam. The weekend following the machine development was dogged by a number of technical issues and was consequently not very productive from a luminosity perspective. In contrast, Saturday 6 October, just before the machine development period, saw a new record of 286 pb^{-1} delivered in one day.

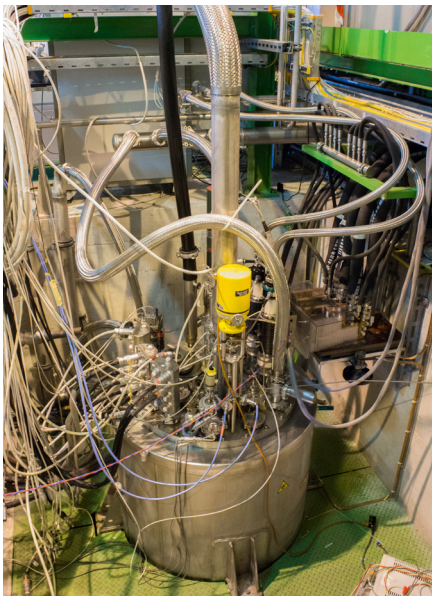
Because of the tight vacuum limits imposed by the injection team in and around the **newly installed** injection kicker magnet, the 2012 scrubbing run has been pushed to the end of the year's proton run. The scrubbing run will include the injection of a large number of 25 ns spaced bunches. This will inevitably generate high vacuum levels. As such, the injection team prefers that the risks for the kicker magnet associated with relaxing their limits and operating with these higher levels only be taken when the proton run is effectively over.

Mike Lamont for the LHC Team

Like hams in a smokehouse

Hall SM18 is now fitted out for testing magnet prototypes developed for the successors of the LHC. Testing is conducted vertically, for greater convenience.

A Nb3Sn magnet (the aluminium-coloured cylinder in the image) suspended from one of the Block 4 cryostat lids, ready for testing.



One of the cryostats already in place in SM18's new Block 4. The cryostat is half-buried, leaving only its upper part – which is used for connections – visible.

A few months ago, a new work area started to take shape in hall SM18. Intended for studies on magnet prototypes being developed for **future upgrades of the LHC**, the work area has three vertical cryostats, recovered from the former test area on the Prévessin site known as "Block 4". "What we are doing here is research and development, unlike the horizontal test benches, which check magnets that are already operational before they are installed in the LHC tunnel," explains Marta Bajko, head of the TF section of the Magnets, Superconductors and Cryostats group (TE department). "Our work is very different, because we have to come up with a protocol of customised tests for the prototypes, some of which are being tested for the first time. As there are no benchmarks for the tests, new ways of interpreting the measurements and graphs we obtain will have to be devised."

The MSC team will soon get a fourth vertical cryostat. For the time being, a large hole in the floor marks its future position; this is because the vertical cryostats are installed in pits. This one measures 2.1 m in diameter, and will be able to hold magnets up to 2.5 m long. The three cryostats already in place allow for the testing of magnets up to 3.8 m long. "The way it works is that the magnet is attached to and hoisted by one of the cryostat lids, in preparation for insertion," explains Marta Bajko. "All of the connections – including sensor wiring, electrical power, liquid helium connections and magnetic measurements – pass through the lid. From here, measurement data are sent to the control console."

So why is it necessary to suspend the magnets vertically, like hams in a smoke-house? This is because horizontal testing is only possible on a fully assembled magnet, i.e. one that has its own helium cooling system and cryostat, which would add greatly to the complexity and cost. The advantage of vertical cryostats is that they are readily adapted to accept just the bare magnet of whatever type, i.e. without cooling system and its own cryostat, for study purposes. This solution is also effective in terms of energy consumption. Indeed, the magnets are suspended from the cryostat lids by thin steel rods, which limits the heat exchange between the outside air and the liquid helium.

Currently the MSC members are working on niobium-tin (Nb3Sn) magnets being developed for the HL-LHC project. Next March they should be ready to accept the first 11 T Nb3Sn prototype, which is being developed in collaboration with Fermilab (**see the article on this subject** in Bulletin 35-36/2012). If the tests are successful, the magnets could one day replace the niobium-titanium (NbTi) magnets currently used in the LHC.

Anaïs Schaeffer

Lasers take physicists back to school

This week saw the First International School on Laser Applications at Accelerators held in GANIL (France). Organised by the LA3NET project – of which CERN is a partner – the school was a singular opportunity for accelerator and laser physicists to meet and discuss the future of the merging areas.

As an EU-funded training network, LA3NET has brought together 27 partner institutes to train early stage researchers in the field of laser applications. Though the network **kickedoff** only a few months ago, it has already filled 15 of its 17 fellow positions, including three in CERN's BE and EN Departments. The five-day International School on Laser Applications at Accelerators was the first big event organised by LA3NET, and united participants from both inside and outside the project.

"This was the first time a school had linked laser and accelerator physics at such a fundamental level," says Carsten P. Welsch, a former CERN fellow who now coordinates the LA3NET project from the Cockcroft Institute (University of Liverpool). "Though lasers are widely used nowadays, their integration at accelerator facilities is still a rather new research area and there is a lot for our community to learn. Because of that, participants from every career stage took part: from doctoral students and post-docs to experienced researchers."

The backgrounds of the participants were equally mixed: around half came from laser physics backgrounds, and were interested in learning more about facilities exploiting their technology; the other half came with extensive backgrounds in accelerator physics, hoping to learn more about the lasers they are now confronted with in their laboratories. "The school provided an opportunity to link these two areas, essentially showing that they are two sides of the same coin," explains Carsten. "We hoped to show that, on a very basic physics level, whether you talk about laser or radio frequency cavities, there are many similarities."

The school was also a chance for participants to learn about the state of the field internationally, not only in academia but also in industry. LA3NET's industrial partners were given two full sessions of presentations – an exceptional amount for this type of school. The industrial partners highlighted the fundamental differences between how they carry out research and how it is done in academia.

LA^{3}NET will be organising a three-day workshop at CERN next February dealing with laser-ion sources and photo injectors. "The idea is to bring together the fellows who are working in this field – typically only 3 or 4 – with invited research leaders in that area," concludes Carsten. "The workshop will also be open to people outside the network. We will organise a large number of such workshops over the next few years. Watch this space!"

Katarina Anthony

Science by the young for the young

At last week's "Fête de la science", CERN hosted students from Geneva and the Pays de Gex for a full day of (scientific) exchange.

On 13 October some 140 pupils from Geneva collèges and lycées in the Pays de Gex took part in a cross-border colloquium in the Globe of Science and Innovation entitled "La Science en partage" (Sharing Science) organised by CERN and Euroscience-Léman with the support of the Department of Public Instruction of the Canton of Geneva and the French Ministry of National Education.

During the conference, pupils presented their scientific projects as part of their work for their maturité leaving certificate in Switzerland or for their supervised practical assignments (TPE) in France. Their presentations of their research were notable for their commendable clarity, becoming modesty and not a little humour, highlighting the enthusiasm with which the work had been conducted. The audience was largely made up of fellow pupils and the presentations by these budding researchers were followed up by lively question-and-answer sessions. The day of exchanges between young people, modelled on real scientific colloquia, was wound up with a guided tour of the Laboratory.

Corinne Pralavorio

Computer Security
Sécurité informatique

Your privacy is paramount!

May I read your e-mails or join you while you browse the web? What if I access all your personal documents on the DFS or AFS disk spaces? I guess you have nothing to hide and all that information is related to your professional duties… so why would you care?

But hold on! The personal use of CERN computing facilities is tolerated (as long as use of resources and bandwidth is negligible). This includes personal mails, reading online newspapers, browsing the web for leisure purposes, or storing private photos on your laptop. In addition, many people bring their own laptops, pads or mobile phones for convenience, instead of using CERN ones. This is because their life at CERN is rather a mixture of working for CERN and for their university, and leisure activities (such as keeping in touch with their families and friends). This implies working hours and leisure time are entangled, and the case is the same for your e-mails and documents.

CERN takes great care to protect the personal data entrusted to it. Your privacy is paramount! Therefore, the GS, HR and IT departments, in collaboration with the Legal Service and the Security Team, have drafted a "**CERN Digital Privacy Statement**" which is designed to describe how and when CERN collects, uses and shares information when you use CERN's computing facilities, and, how CERN protects personal data stored in CERN's computing facilities.

There can be, and there is, no legitimate reason why the CERN Computer Security Team or the Service Desk - or your colleagues or supervisor/team leader - should have unrestricted access to your e-mails and data. Your CERN mailbox and your "private" folders on AFS and DFS are 100% yours, and **strict procedures** have been established for the rare cases where such access is necessary. So if you would like to keep things private, put them there. On the other hand, your professional stuff, i.e. software, draft documents, minutes, etc., should never be kept there but rather stored in dedicated project folders on **DFS** or **AFS**, or within the **CDS** or **EDMS** web services.

Similarly strict rules also apply for accessing automatically recorded logging data (resource usage, IP addresses, visited web sites, interactive commands, physical and digital access information, and telephone records) created by your use of CERN's computing facilities. While such data is essential to provide, measure, customize and improve services, as well as to monitor system security, those rights come with obligations already respected by the corresponding system, specified for many decades, and now explicitly expressed in this new Privacy Statement.

The Privacy Statement and the procedures for accessing private data are part of a more comprehensive **Data Protection Policy** currently under preparation. Have a look and stay tuned!

For further information, questions or help, please check our web site or contact us at **Computer.Security@cern.ch.**

Computer Security Team

P.S. While CERN does care about your privacy when you use CERN computing facilities, it is your personal responsibility to protect of your privacy when browsing the Internet! **Here** is a nice video showing how private "private" can be.

Library
Bibliothèque

Publishing Open Access articles beyond High Energy

News from the Library

CERN has supported Open Access Publishing for many years, and the Scientific Information Service is working to implement this vision. We have just launched the flagship project SCOAP3 (Sponsoring Consortium for Open Access Publishing in Particle Physics) aimed at converting high-quality journals in High Energy Physics to Open Access for articles published as of 2014.

IIn parallel, several win-win arrangements allow experimental and theoretical high-energy physics results from CERN to be published in Open Access in a variety of high-impact journals.

Open Access publishing at CERN goes far beyond High Energy Physics. Indeed, CERN is a key supporter of Open Access in accelerator science, through sponsorship of the APS journal **PRSTAB** and participation in the **JACoW** collaboration.

Now CERN authors publishing in the field of engineering will also have the opportunity to publish their findings as Open Access articles. SAGE has recently launched a broad-based Open Access journal: **Sage Open Engineering**.

Furthermore, a new opportunity is available for colleagues working outside of the core CERN fields to publish Open Access in **SpringerOpen** and **BioMed** Central journals, which cover a range of disciplines. The full list of titles can be found on the SpringerOpen and BioMed Central websites. All these journals publish Open Access articles and run their own peer review system, while authors will retain copyright and articles will be licensed for re-use under the CC-BY license.

The arrangements vary between different publishers. Before approaching the publisher or if you are directly solicited, please contact the Library before making any commitment towards a third party: we will be glad to support you in this process.

CERN Library

Ombuds' Corner
Le coin de l'Ombuds

Empowerment

In this series, the Bulletin aims to explain the role of the Ombuds at CERN by presenting practical examples of misunderstandings that could have been resolved by the Ombuds if he had been contacted earlier. Please note that, in all the situations we present, the names are fictitious and used only to improve clarity.

"True leadership, not to be confused with dictatorship, does not take away an individual's freedom, choice, accountability, or responsibility. Just as the leader is to be serving and taking into account the ideas and needs of those they lead, those following that lead are to be doing the same thing. In doing so, they, along with the leader, practice self-restraint, develop character, integrate discipline, and practice love and respect for other people. This creates a kind of self-leadership at all levels of the group. It promotes a self-leadership environment where all are empowered and working toward the good of the whole because it is in the best interest of all."*

In any system, there is a common tendency adopted when something does fit someone's perception: make the hierarchical level just above him or her responsible for the problem. At CERN, where more than half of the cases brought to the Ombuds have to do with some kind of evaluative relationship, it would be too easy an escape to believe that the only causes of such situations are found in a lack of leadership of a direct or indirect supervisor. All of us should be the custodians of our CERN values; leadership is an issue that affects us all in our different roles.

For example, let's take new Group Leader, Mark**, who does not know everything about his new functions; he is thus a bit insecure, and believes that he should assert his authority otherwise his subordinates will not respect him. He may then adopt a management style which could be very counterproductive: micromanagement, controlling people's schedule instead of empowering their accountability, imposing unpopular decisions to point out who is in charge, and saddling everyone with his personal stress. The result: Mark will soon be cut off from his group. Of course, everyone in the group will complain and accuse him of terrible leadership. Well, it's true, his leadership is not great. He would do better if he were empowering the members of his group, reflecting on the group's strategy, adopting a larger view, and fostering an environment where everyone can work according to his and her potential.

On the other hand, the people within the group can also empower themselves and be pro-active in their actions and give Mark feedback. There are many possible different ways to do this. For example: trigger a discussion on the CERN Code of Conduct, propose a day dedicated to a team-building exercise, launch pro-active information and reporting, ask for clarification of everyone's schedule, propose a Ombuds-facilitated team discussion, or discuss a global training strategy for the team. There are several informal ways of improving the situation that members can propose to improve a respectful communication within the group. It is not the best strategy to expect that only the manager put these ideas on the table, considering this as solely the manager's job. It it is much better to help and participate in team leadership.

Conclusion:

Self-empowerment means everyone is concerned about: their accountability; the way they communicate; being pro-active in their human relationships, promoting a respectful workplace environment; and not opting for a passive attitude, where they would expect these values would always come from the hierarchical level just above them. With good working conditions – fostered by all of us – we can learn from one another, and progression towards an ethical leadership will be favoured.

Vincent Vuillemin

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* "The Focus of Leadership: Choosing Service Over Self-Interest", by Michael McKinney, from **LeadershipNow.com.**

** Names and story are purely imaginary.

CERN Pension Fund
Caisse de pensions

REPORT FROM THE PENSION FUND

Since my last report in July, the Fund has continued with the implementation of its capital preservation approach with encouraging results. There have also been several communication events focusing in particular on the Fund's governance and investment processes.

At the September sessions of the Finance Committee and Council, the Chairman of the Pension Fund Investment Committee, Dr. Sigurd Lettow, gave comprehensive presentations on the governance and operations of the Fund's Investment Committee. The Investment Committee is the subsidiary and expert body of the PFGB on investments. Its mandate is to define the process to invest the Fund's assets - which amount to approximately 3.7 billion Swiss Francs - and to supervise its implementation.

Dr. Lettow's presentation addressed the advantages and disadvantages of the many different investment possibilities available to the Fund. He explained the principles and processes that determine the selection of the Fund's investment mix. The principles underlying various approaches to the Fund's actuarial valuation were also discussed. Dr Lettow reported that the Fund's investment performance amounted to 5.1% year-to-date, which is on track with the annual return objective determined by the Council, which targets an annual return of 3% over inflation.

Also in September, the Fund held its Annual Information Meetings at ESO and CERN. These meetings, which were advertised in the Bulletin, are open to all employees of CERN and ESO, as well as to the Fund's beneficiaries. The Fund's Chief Executive Officer reported on the Financial Statements of the Fund for 2011 and presented the Fund's progress with the implementation of the capital preservation approach. The presentation included a detailed description of the Fund's investment decision making framework and of the reporting and control mechanisms that have been put in place in the past two years to ensure that the portfolio is optimally designed to meet the Fund's objectives with the lowest possible estimated risk.

I am happy to report that the Fund successfully completed its second real-estate acquisition this year: a 2,310m^2 office space building in London, United Kingdom. The property, which is 100% let, is situated in the Victoria District close to Buckingham Palace. The building was selected on the basis of its risk-to-return profile, fully in line with the Fund's capital preservation approach. In the near future, a catalogue of all of the Fund's real estate assets will be made available for consultation to members and beneficiaries of the Fund.

The Fund is also progressing towards completion of its Regulations. The drafting of the Rules of Procedures is now being finalised. It is foreseen that the document will be ready for submission to Council at its December session.

The CERN Pension Fund has increased its contacts with its peers in other international organisations. In September, I met with the Financial Controller of the World Trade Organisation (WTO), at the request of the WTO. Its purpose was to share the CERN Pension Fund's experience in updating its governance to modern best-practice levels. In early October, a delegation from the Pension Fund Management Unit (PFMU) met with Eurocontrol, the European organisation for the safety of air navigation, in response to a request by Eurocontrol for information concerning the CERN Pension Fund's implementation of the Fund's capital preservation strategy. Also in October, the PFMU received a visit of the representative of the Investment Management Service Team of the United Nations Joint Staff pension Fund. This meeting allowed the two teams to share experience in updating IT operations infrastructure to best-practice solutions.

Dan-Olof Riska,
Chairman, Pension Fund Governing Board

TRANSPORTING "EXCEPTIONAL CARGO" ON CERN SITES

When the Transport Service is managing "exceptional cargo", the driver and the escort are often in charge of an operation involving equipment worth many hundred thousand francs. Equipment that may well be irreplaceable for a facility or an experiment.

The members of the Transport Service who carry out these tasks are very professional and are – needless to say – highly concentrated on the job. They count on your understanding and support in the traffic on site.

Their convoys are – for good reasons – moving slowly. Kindly do not overtake, do not cut in in front of them and do not drive too closely. Respect the escort and do not position yourself between the truck and the escort vehicles. The EN department counts on your courtesy on the road.

EN Department

MAIL OFFICE

Members of the personnel are kindly requested to empty their mail boxes. Any mail remaining in mail boxes will be collected and re-sorted by Mail Office staff on Wednesday 31st of October. Only specifically addressed mail will be re-delivered.

VACCINATION AGAINST SEASONAL INFLUENZA: A REMINDER

At this time every year 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 or diabetes), pregnant women, people suffering from obesity (BMI>30) and those over 65.

As the Medical Service does not supply the vaccine, you must purchase it from a pharmacy (in France you don't need a prescription). From the beginning of October you can then bring your vaccine to the Infirmary (Building 57-Ground floor) and get vaccinated without an appointment between 9 a.m. and 12 a.m. and 2 p.m. to 4:30 p.m.

For the purposes of health insurance reimbursement, you can get a prescription from the Medical Service either on the day of the injection or beforehand.

Medical Service

BLOOD DONATION

Organized by EFS (Etablissement Français du Sang) of Annemasse

Number of donations during the last blood donation: 137 donors in July 2012. Let's do better! Give 30 minutes of your time to saves lives...

On Wednesday 7 November 2012
From 9am to 3pm
CERN Restaurant 2

Technical training

TECHNICAL TRAINING

If you would like more information on a course, or for any other inquiry/suggestions, please contact **Technical.Training@cern.ch**
Valeria Perez Reale, Learning Specialist, Technical Programme Coordinator (Tel.: 62424) Eva Stern and Elise Romero, Technical Training Administration (Tel.: 74924)

HR Department

Electronic Design	**Next Session**	**Duration**	**Language**	**Availability**
Foundations of Electromagnetism and Magnet Design (EMAG)	14-Nov-12 to 27-Nov-12	6 days	English	20 places
Impacts de la suppression du plomb (RoHS) en électronique	26-Oct-12 to 26-Oct-12	8 hours	French	15 places
LabVIEW Real Time and FPGA	13-Nov-12 to 16-Nov-12	5 days	French	5 places

Mechanical design	**Next Session**	**Duration**	**Language**	**Availability**
ANSYS - Introduction à ANSYS Mechanical APDL	04-Feb-13 to 07-Feb-13	4 days	English	7 places
ANSYS CFX.	10-Dec-12 to 13-Dec-12	32 hours	English	6 places
Cours avancé ANSYS Workbench	05-Nov-12 to 08-Nov-12	4 days	English	2 places
Travailler en salle propre	15-Nov-12 to 15-Nov-12	8 hours	French	21 places

Office software	**Next Session**	**Duration**	**Language**	**Availability**
ACCESS 2010 - niveau 2 : ECDL	08-Nov-12 to 09-Nov-12	2 days	French	9 places
CERN Document Server (CDS), Inspire and Library Services	23-Nov-12 to 23-Nov-12	4 hours	French	9 places
MS Project - niveau 1	16-Nov-12 to 23-Nov-12	12 hours	English	3 places
MS Project - niveau 2	30-Nov-12 to 30-Nov-12	8 hours	English	10 places
PowerPoint 2010 - Niveau 2	15-Nov-12 to 15-Nov-12	1 day	French	5 places
WORD 2010 - niveau 1 : ECDL	12-Nov-12 to 13-Nov-12	2 days	French	6 places

Software and system technologies	**Next Session**	**Duration**	**Language**	**Availability**
C++ Part 1 - Hands-On Introduction	05-Nov-12 to 08-Nov-12	4 days	English	2 places
CERN openlab / Intel Parallelism, Compiler and Performance Workshop	30-Oct-12 to 01-Nov-12	3 days	English	40 places
Hadoop Masterclass	06-Nov-12 to 06-Nov-12	8 hours	English	23 places
Hadoop for Administrators	07-Nov-12 to 09-Nov-12	24 hours	English	7 places
Hadoop for Developers	12-Nov-12 to 16-Nov-12	40 hours	English	One more place
ITIL Foundations (version 3)	05-Nov-12 to 07-Nov-12	3 days	English	7 places
Intermediate Linux System Administration	15-Nov-12 to 21-Nov-12	5 days	English	One more place
Introduction to Databases and Database Design	20-Nov-12 to 21-Nov-12	2 days	English	6 places
Introduction to Linux	30-Oct-12 to 01-Nov-12	3 days	English	4 places
Oracle - SQL	21-Nov-12 to 23-Nov-12	3 days	English	7 places
Python - Hands-on Introduction	19-Nov-12 to 22-Nov-12	4 days	English	8 places

Management & Communication training

Management and communication courses – places available

There are places available in some management and communication courses starting before the end of the year.
You can then sign-up on line. For advice, you can contact: Erwin Mosselmans, tel. 74125, erwin.mosselmans@cern.ch | Nathalie Dumeaux, tel. 78144, nathalie.dumeaux@cern.ch

Course	**Dates**	**Duration**	**Language**	**Availability**
Conflict Resolution for Managers	12-13 November	2 days	English	6 places
Communicating to Convince	13-14 November	16 hours	English	4 places
Orientation Service	27 and 29 November	2 days	French	2 places

Learning and Development Policy available on HR web

The full text of CERN's "Learning and Development Policy" is now available in English and French on the HR training website: **cern.ch/hr-training/.**
This new policy was presented to all personnel in the HR Public meeting held on Monday 25 June, and the slides and the video recording remain available on **Indico**.
Pascale Goy, Head of the Learning and Development Group in HR, is available for more information: pascale.goy@cern.ch , tel. 62232.

HR Department

Seminars

WEDNESDAY 24 OCTOBER

TH COSMO COFFEE

11:00 Special Discussion Session.

EVERYBODY (CERN-TH, U. GENEVA, EPFL)

CERN (4-2-011 - TH COMMON ROOM)

ISOLDE SEMINAR

14:30 Mass Spectrometry and Decay Spectroscopy around 132Sn.

DR. TOMMI ERONEN (UNIVERSITY OF JYVÄSKYLÄ, MPIK HEIDELBERG)

CERN (26-1-022)

THURSDAY 25 OCTOBER

COLLIDER CROSS TALK

[TBA]

11:00 to 12:00 (Europe/Zurich)

GAVIN PHILLIP SALAM (CERN)

CERN (4-2-011 - TH COMMON ROOM)

TH BSM FORUM

14:00 Pseudo-Goldstones as dark Matter, Joint BSM Cosmo Coffee seminar

MICHELE FRIGERIO (IFAE, UAB, BARCELONA)

CERN

CERN COLLOQUIUM

16:30 Dark Matter in the Universe

DR. KATHERINE FREESE (UNIVERSITY OF MICHIGAN)

CERN (503-1-001 - COUNCIL CHAMBER)

FRIDAY 26 OCTOBER

PARTICLE AND ASTRO-PARTICLE PHYSICS SEMINARS

14:00 FDR: A four dimensional regularization/renormalization approach to quantum field theories

ROBERTO PITTAU (GRANADA UNIVERSITY)

CERN (4-3-006 - TH CONFERENCE ROOM)

SUNDAY 28 OCTOBER 16

CAS CERN ACCELERATOR SCHOOL

08:00 Introduction to Accelerator Physics

DR. BAILEY, ROGER

GRANADA, SPAIN

TUESDAY 30 OCTOBER

TH STRING THEORY SEMINAR

14:00 Higher Spin Black Holes from CFT

KEWANG JIN (ETH)

CERN (4-3-006 - TH CONFERENCE ROOM)

ACTIWIZ

15:00 Optimizing material selection at CERN's accelerators from the radiological point of view

DR. HELMUT VINCKE (CERN) AND CHRIS THEIS (CERN)

CERN (864-1-D02 - BE AUDITORIUM PRÉVESSIN)

WEDNESDAY 31 OCTOBER

TH STRING THEORY SEMINAR

08:00 The Fifth High Energy Physics School in Măgurele - 2012, PCUBE Graduate School Pilot Edition

YARON OZ (TEL AVIV UNIVERSITY)

NATIONAL INSTITUTE OF PHYSICS AND NUCLEAR ENGINEERING - IFIN-HH BUCHAREST-MAGURELE

TH COSMO COFFEE

11:00 Scale-dependent halo bias in the excursion set approach

ASEEM PARANJAPE (ETHZ)

CERN

TH THEORETICAL SEMINAR

14:00 TBA

GINO ISIDORI (ISTITUTO NAZIONALE FISICA NUCLEARE (IT))

CERN (4-3-006 - TH CONFERENCE ROOM)

TUESDAY 6 NOVEMBER

LATSIS CONFERENCE

18:00 Cérémonie honorant les Prix Latsis universitaires 2012

UNIVERSITÉ DE GENÈVE

More information at: http://bulletin.cern.ch

12 TO 16 NOVEMBER

WRIGHT COLLOQUIUM 2012

18h30 Public conferences - Molecular architecture

DR RODERICK MACKINNON, PROF. TAKUZO AIDA
PROF. ANDREW B. HOLMES, PROF. DAVID LEIGH
DR VENKATRAMAN RAMAKRISHNAN

UNI DUFOUR (24 RUE GENERAL DUFOUR)

More information at: www.colloque.ch