9th meeting of the CERN-Korea Committee

CERN, 11 April 2011

Present:

Co-Chairmen:	U.-K. Yun /NRFK, R. Voss /CERN.
Rep. of Korea:	D.-G. Hong (Theory), I. Park (CMS), I.-K. Yoo (ALICE)
CERN:	J. de Groot /CERN, P. Giubellino /ALICE, Y. Schutz /ALICE, G. Tonelli/CMS, U. Wiedemann /CERN-TH
Observer:	J.-H. Lee /NRF
Invited:	M. Storr /CERN (part-time)

The presentations to the meeting are available from the INDICO web site at:
http://indico.cern.ch/conferenceDisplay.py?confId=132651

Welcome

R. Voss welcomes the participants to the meeting and introduces Y. Schutz, ALICE Deputy Spokesperson, who is attending the meeting for the first time.

R. Voss notes the excellent state of Korea – CERN relations, witnessed also by a number of VIP and press visits. The status of Associate Member State, recently introduced by CERN, has been discussed with Korean Officials.

He mentions the KoRIA (Korea Rare Isotope Accelerator) project and says that there are similarities with the ISOLDE facility at CERN. The KoRIA project will be included in future meetings of the Committee.

Minutes of the last Meeting

R. Voss points to an unfortunate error in the minutes of the last meeting. U.-K. Yun was Korean representative and not observer. With this correction, the minutes are approved.

Matters Arising

U.-K. Yun regrets that G.-H. Yoo, representative of MEST, can not be present at the meeting.

On the scale of the M&O A contributions he mentions that the number of PhDs authors to be used for calculating the M&O contributions remains at 30 for CMS and 10 for ALICE. He adds that he would like to reinforce further the CERN-Korea collaboration.

G. Tonelli thanks U.-K. Yun for the good news. The situation of the LHC experiments is very exiting with excellent opportunities for important physics results in 2011-12. He hopes that the 2012 budget will be similar to 2011.

P. Giubellino says that ALICE made an effort to keep the budget within previous estimates. The 2012 M&O budget to be presented to the RRB meeting is still preliminary. In this context he notes that much of the infrastructure of ALICE dates from the LEP era and that its upkeep generates additional cost.

R. Voss mentions recent decision to continue running the LHC in 2012. The excellent state of the LHC and the experiments present exiting opportunities for important discoveries. He thanks the participants for their collaboration.

ALICE – P. Giubellino

P. Giubellino starts his presentation by recalling briefly the particular physics aims of ALICE. He points out the participation of the Korean team in the different ALICE detector systems and computing, concluding that Korean team is a major player in ALICE.

Korean M&O A contributions for 2002 – 10 have all been paid with the contribution for 2011 still outstanding. He then shows preliminary values for the 2012 M&O B and B contributions, adding that these budgets will be scrutinized and finalized over the summer for approval at the fall RRB meeting.

The last six months have been eventful with the first heavy ion run, a shutdown allowing installation of some additional detector modules, and a 2.76 TeV pp run early in 2011, requested by ALICE.

ALICE is in the process of reorganization to suit better the exploitation phase of the experiment.

The detector has performed remarkably well in 2010 but a number of detector issues remain to be resolved, in particular a cooling problem leading to the 10 – 20% of the Pixel detector not operational.

ALICE has collected data during the 2010 pp run to collect comparison data for heavy ions but also to do pp physics. This has led to six papers published and a number submitted or still under review. Analysis of the data collected during the PbPb has resulted in five published papers to date. Results cover general characteristics of PbPb collisions as well as the properties of the medium created in those collisions. Planning for future running includes pA runs and lower mass AA runs.

Concerning he upgrade of ALICE, P. Giubellino notes that ALICE has evolved considerably, with the addition of the TRD and EMCal, compared to the design in the Technical Proposal. Several upgrades to the detector are under discussion. ALICE intends to submit an Expression of Interest soon with Letters of Intent in October following a physics workshop in July. The Korean team is at present actively involved in preparations for the upgrade of the particle identification and detectors for forward physics.

G. Giubellino concludes that the participation of the Korean team is proceeding well with important participation in detector systems and analysis. The team is already playing a major role in the preparation of the upgrade projects.

ALICE – I.-K. Yoo

I.-K. Yoo reports on the activities of the Korean team in ALICE. The team consists of 38 members with a significant fraction (12) resident at CERN. He reviews the participation of the four university teams in the ALICE detector systems and the physics analysis. The Korea Institute of Science and Technology Information (KISTI) was recently admitted to ALICE as Associate Member. The institute provides a Tier-2 centre.

I.-K. Yoo then provides details of the budget of the Korean ALICE team. The number of 10 PhD authors, used to calculate the M&O A budget share, is unchanged with respect to 2010.

I.-K. Yoo ends his presentation by listing the different Korea - ALICE meetings and workshops. The second Asian ALICE Workshop, with participation from China, Japan and Korea, took place at Yonsei University in early March 2011 (http://ynpl.yonsei.ac.kr/alice-workshop/).

Discussion

R. Voss enquires about the plans for a Tier-1 centre at KISTI. I.-K. Yoo replies that the project has not yet been approved. Y. Schutz adds that the Tier-2 centre at KISTI has been operational for four years. The Tier-1 project involves a number of other Asian countries.

CMS – G. Tonelli

G. Tonelli starts by presenting an impressive list of 42 physics papers published by CMS in refereed journals. A number of other papers are presently under review.

He presents some results on 'known' physics, showing that the apparatus and its alignment and calibration are already well understood. For 'new' physics he shows improved limits on SUSY and MSSM Higgs production.

Since starting up in 2011 both the LHC and CMS have performed well. The challenge for CMS is pile-up with on average several interactions per bunch crossing. For 2011 – 12 CMS has at least a 3 sigma significance for the discovery of the Higgs boson between 115 and 600 GeV/c^2.

G. Tonelli shows the evolution of the M&O A budget for the next few years. The profile shows a peak due to the need to replace the DAQ. This will be reviewed and scrutinized prior to the fall RRB meeting taking into account the revised LHC schedule.

Turning to the planned upgrade of CMS, G. Tonelli mentions that a draft document has been presented to the LHCC, with positive feedback. Discussions with the funding agencies are encouraging. The estimated cost of the phase1 upgrade is about 64 MCHF with 10% to be financed via a common fund. He hopes that by the time of the October RRB meeting a near complete 'money-matrix' can be shown. He expresses the hope that the Korean team will be able to play a major role in the upgrade of the experiment.

CMS – I. Park

I. Park reviews the membership of the Korean CMS team. There are nine universities member of the Collaboration. Three of these are not yet integrated in the Korean CMS team. The team covers a wide variety of physics topics with six Physics Analysis Groups active. He shows the 2010 output in terms of publications, conference talks, PhD- and MS theses.

Detector activities cover the production of multi-gap RPCs produced at the Korea Detector Laboratory (KODEL) as part of the CMS up-scope. R&D on multi-gap RPCs for the CMS upgrade is ongoing.

Turning to financial matters, I. Park shows the budget evolution since 2007. The CtC2 (147 kCHF) has been completed[1] while for the up-scope (403 kCHF) 271 remains to be contributed. The up-scope activity plan includes the production of 660 RPC gaps. The transportation cost of ~85 kCHF is presently not covered.

In summary, I. Park says that physics activities have increased with many publications and presentations. A budget plan for the upgrade of CMS covering the next five years needs to be prepared.

Discussion

R. Voss enquires about the three institutes that joined CMS but are not integrated in the Korean team. I. Park explains that these institutes have not yet been able to secure financial support, in particular for M&O.

Theory (U. Wiedemann, D.-K. Hong)

U. Wiedemann reports that the CERN-Korean Theory collaboration proceeds smoothly. The actual cost of the Korean Fellows is well in line with the standard cost for Fellows used at CERN. The CERN Theory Group is happy about the collaboration and likes it to continue.

D.-K. Hong recalls that the purpose of the program is to develop the next generation of high-energy theorists and to promote theory collaboration with CERN. The budget for 2010 allowed financing two Fellows at CERN plus sending two graduate students to CERN for six months. He presents the selection procedures.

The CERN Theory Institute can support 3-4 Korean postdocs who apply directly to CERN.

The 2012 program will be announced in September via the Korean Ministry of Education, Science and Technology (MEST) and the Korean Physical Society. Selection will be done in December.

In conclusion, D.-K. Hong says that the theory collaboration is working well. The selection process is well formatted but needs careful monitoring.

Discussion

P. Giubellino mentions that ad-hoc programs for students and graduate students would be an interesting possibility, noting that special agreements between CERN and non-Member States can be made. R. Voss adds that, as of late 2011, co-funded fellowships with the European Union will probably be established. If so, these fellowships will be open to all nationalities. Applications should then be due in September.

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[1] At the meeting 17 October 2011 it was noted that, although this was said, the statement is not correct. Only the Step3 contribution to the CtC2 was completed.

CERN High School Teacher Programmes (M. Storr)

M. Storr says that there will be a special program for Korean high school teachers in early August. A technical meeting to discuss the program is planned for 12 April.

The program will be mostly in Korean, but some of it in English. English language ability is part of the selection procedure. The program is being announced in Korea. Funding is by MEST.

M. Storr notes that the selection of the teachers is a Korean responsibility, but asks the Korean representatives to be aware of age and gender balance. Good candidates are those who have some extracurricular activity such as science writing or activities in teacher associations.

R. Voss concludes that the program is well on track.

Euro-Asia-Pacific School of High-Energy Physics (R. Voss)

R. Voss mentions that the plans for the school have not advanced as planned. He mentions some miscommunication and adds that a coherent approach is needed. CERN considers itself as the lead partner in the School with the objective to increase the collaboration between CERN and the Asia/Pacific region.

U Wiedemann sees two different approaches one being a focussed High-Energy Physics School and the other a much more broad approach. It is agreed that this Committee will only be concerned with the first option. R. Voss confirmed that this is also the viewpoint of CERN.

The fist meeting of the International Advisory Committee will take place on May 13 in Osaka.

Next Meeting

The next meeting will take place on the Monday morning prior to the fall 2011 RRB meetings, provisionally fixed on 17 October 2011.
