

Results of the Plenary meeting 2013 on 24-26 June 2013

Time/place of the meeting:

Campus Sursee, 24 June 2013 (2 p.m.) - 26 June 2013 (4 p.m.)

Conference programme see Annex 1. The individual talks can be found under

<https://indico.cern.ch/conferenceTimeTable.py?confId=239949#all.detailed>

This document is not meant as abstract or summary of the individual talks, but limits itself to a summary of the more general and the administrative activities, as well as with the wrap-up session, which concluded the Plenary meeting.

1. CHIPP Prize Award

The CHIPP Prize for the best PhD student in experimental or theoretical particle physics is awarded for the sixth time. This year, the CHIPP Selection Committee decided to award the prize to Martin Fertl from PSI for his dissertation (in prep.) on the Hg co-magnetometer in the nEDM experiment at PSI. The *laudatio* says:

“For his original contributions to the design and contribution of a new experiment planning to measure the electric dipole moment of the neutron at PSI”.

The Plenary is informed about the selection; the winner receives the prize money and the framed diploma, and presents his current research activity (slides see

<https://indico.cern.ch/getFile.py/access?contribId=6&sessionId=4&resId=1&materialId=slides&confId=239949>)

2. European Strategy

The Chair of the European Strategy Preparatory Group (T. Nakada) presents the outcome of the update process¹, which was carried out with the participation of the particle physics community at large as well as of a dedicated group of national representatives. The strategy had to find a balance between setting priorities and cultivating diversity, to preserve and use the technical infrastructure at national laboratories and institutes, and to prepare the framework for a European participation in global projects. The challenges ahead are the implementation of the European ambitions and its engagement in a global corporation outside of Europe in a given framework of limited available resources.

The representative of the SERI (B. Moor) delivers a statement of the State Secretariat² in which a number of important statements regarding the support of CERN and the Swiss Particle Physics community were made (e.g. support CERN, possibly including further special contributions; examine increased funding needs for the LHC, with computing possibly to be included in the Swiss national roadmap for research infrastructures; consider increased funding of FLARE; recognize adequate funding for Outreach and education as a central component of science).

3. CERN Council

The Swiss scientific CERN Council delegate (O. Schneider) reports on the European strategy and the CERN Mid-Term Plan³ (for other topics → [minutes of the CHIPP Board](#)):

- The updated European Strategy in Particle Physics (17 statements) had been discussed in March by Council and was adopted on 30 May 2013 in a special Council session in Brussels (→ <http://council.web.cern.ch/council/en/EuropeanStrategy/ESParticlePhysics.html>). At national level, the strategy had been presented to State Secretary Dell’Ambrogio.
- The Mid-Term Plan 2014-2018 (i.e. the first step towards the Strategy implementation) shows that CERN’s

¹ <https://indico.cern.ch/getFile.py/access?contribId=7&sessionId=1&resId=0&materialId=slides&confId=239949>

² <https://indico.cern.ch/getFile.py/access?contribId=9&sessionId=1&resId=1&materialId=slides&confId=239949>

³ <https://indico.cern.ch/getFile.py/access?contribId=8&sessionId=1&resId=1&materialId=slides&confId=239949>

science and R&D programmes are mostly in line with the strategy, whereas the consolidation of the general infrastructure at CERN is a major concern.

He highlights the need for Switzerland to continue its strong support to CERN and lists the top priorities for Swiss involvement in scientific activities. He calls upon the Swiss groups involved in a neutrino programme towards a long-baseline project to play an active role in the European process of defining a clear path forward.

4. CHIPP Outreach

The Chair of the CHIPP Outreach Group (H.-P. Beck) reports about the outreach activities of 2013⁴: (1) BE and ZH have participated in the PP Masterclasses; (2) the outreach project 'Verflixtes Higgs', which has been supported with external professionals, has ended in March, resulting among other things in a broad coverage of the PP activities in the social media, the setting up of a new webpage (www.teilchenphysik.ch [for the time being in German only]), and in two events for teachers training; (3) since March, the approved SNF project 'Interactions' has taken over, building on the results from the 'Verflixtes Higgs' and expanding them. Looking ahead, he mentions the CERN open days 2013 (28/29 September), the fact that the present Swiss delegate in the European Particle Physics Coordination Network will retire in 2014 and a successor will have to be found, and the expected CHIPP involvement in the 200 years celebration of the SCNAT (2015).

5. CHIPP Computing Board

In his report⁵ and standing in for the absent Chair of the CHIPP Computing Board (Ch. Grab), S. Haug informs the Plenary about the Swiss computing infrastructure and its use, explaining that Bern's over-proportional size is due to phased-out hardware acquired from CSCS. He mentions the collaboration agreement between CSCS and CHIPP for the years 2014-2018 that places the cooperation again on firm grounds, and informs about the increased disk space needs of LHCb. Finally, he reports about the efforts for finding a solution for the Swiss EGI funding under a SUK project and a possible change of the LHC computing structure (where Switzerland should avoid to become a negligible partner).

6. ACCU

The Swiss ACCU representative (M. Weber) shows⁶ that several topics discussed in ACCU are surfacing every now and then since the very first ACCU meeting (housing, transport, drinking and eating, bicycles). He presents the latest news regarding the renovation of the hostel, a bicycle path planned between the Meyrin and Prévessin sites, and other topics. He offers help where needed, and invites colleagues to contact him in case they have a wish or request – or simply a positive feedback.

7. ECFA

The Swiss R-ECFA representative (L. Rivkin) being absent, T. Garvey (P-ECFA representative) presented the report⁷. In addition to the regular country visits, ECFA organised end of May a European Linear Collider Workshop and participated actively in the worldwide ILC event (12 June), which marked the official launch of the Linear Collider Collaboration. The next ECFA Plenary session is scheduled mid-July in Stockholm, overlapping on purpose with the EPS meeting; in addition to the discussion of the consequences from the European Strategy update the Plenary will also deal with its own role (→ see [minutes of the CHIPP Board](#)). In fall, ECFA will organise the High-Luminosity LHC Experiments Workshop in Aix-les-Bains.

8. ApPEC/OECD Global Science Forum

The Swiss ApPEC representative (T. Montaruli) reports⁸ that Switzerland has joined ApPEC with the SNF having signed the adhesion document and paying the annual contribution. Information about ApPEC can be accessed via the CHIPP website (→ <http://www.chipp.ch/chipp-meet-doc.html>); the personal meeting reports from the Swiss representative require an access code [contact: Montaruli]. The Science Advisory Committee SAC will be elected soon (Swiss candidate: L. Baudis). At national level, the ApP community has converged in its discussion about future participations, focussing in its strategy paper on three large projects (CTA, Darwin,

⁴ <https://indico.cern.ch/getFile.py/access?contribId=15&sessionId=10&resId=1&materialId=slides&confId=239949>

⁵ <https://indico.cern.ch/getFile.py/access?contribId=16&sessionId=10&resId=0&materialId=slides&confId=239949>

⁶ <https://indico.cern.ch/getFile.py/access?contribId=17&sessionId=10&resId=0&materialId=slides&confId=239949>

⁷ <https://indico.cern.ch/getFile.py/access?contribId=18&sessionId=10&resId=1&materialId=slides&confId=239949>

⁸ <https://indico.cern.ch/getFile.py/access?contribId=19&sessionId=10&resId=0&materialId=slides&confId=239949>

LAGUNA-LBNO). For 2014, an ApP Workshop is planned for late spring / early summer (contact: Montaruli). Finally, some ideas for in-kind contribution to ApPEC are shown (a FTE fraction at PostDoc level for writing ApPEC news; hosting the ApPEC GA [e.g. at CERN]; encourage the setting-up of a permanent body [ApP Forum at CERN] for fostering the dialogue between ApPEC and PP).

9. NuPECC

In the absence of the Swiss NuPECC representative (B. Krusche), the Chair presents the latest NuPECC news⁹. The 2013 meetings dealt with the usual business, but discussed also the intention to strengthen collaboration with IAEA in fields of common activities. The future of NuPECC remains unclear, because the future of its mother organisation the European Science Foundation ESF and its possible successor Science Europe SE is not yet settled. Until end 2015, the so called Expert Committees and Boards ECB of ESF (like NuPECC), which have an independent funding, will continue to function as usual, and the ESF management has been instructed to find alternative solutions beyond that date.

10. SPS

In his report, the SPS Observer (A. Schopper) gives a presentation about the mission and the vision of the SPS¹⁰. He provides a few key numbers (> 100 years old, ~1250 members), mentions the SPS awards and publications, and explains the system of annual meetings alternating between 'Swiss only' and 'joint meetings with Austria'. He ends by inviting all CHIPP members to join the SPS.

11. Elections

The Chair presents the recommendation of the Board regarding the election of one P-ECFA representative and for the decision regarding Honorary Members.

For the P-ECFA, the CVs of the three candidates had been distributed two days before this meeting, and the nominees briefly introduce themselves. The first round of voting (secret ballots) results in a tie-vote between two candidates at the second place; therefore the field of candidates can't be reduced to two (the Board had asked for this procedure). A second vote is carried out, this time the simple majority being sufficient.

→ The Plenary (by simple majority) elects Sigve Haug for a first term as P-ECFA representative (2013-2015).

The Chair congratulates Haug for his election and wishes him an interesting task as new representative (applause). CHIPP will inform the ECFA secretariat about this election.

→ The Plenary unanimously approves the admission of four Honorary Board Members (Amsler, Clark, Kunszt, Vuilleumier) and of two Honorary Plenary Members (Fröhlich, Schmid). The Chair will inform the newly admitted Honorary Members about this outcome.

12. Concluding remarks

In a wrap-up session, the problems, action items and the way forward for each session topics are presented by the session chairs¹¹.

- Session 1 (Setting the scene, Kirch): experiments and accelerator, theory, detector R&D, collaboration with ApPEC, political statements from SERI
- Session 2 (Theory, Schneider): diversity of research topics should be maintained; theorists should play an important role to guide future decisions.
- Session 3 (LHC exploitation, Schumann): energy and high luminosity upgrade are eagerly awaited; beam quality beam instabilities might become a problem; strong R&D for accelerators should be pursued.
- Session 4 (detector upgrade and HL-LHC, Antusch): pile up, data rate and read-out bandwidth are problem areas in the short term, radiation damage and end of detector lifetime in medium and long range. Design studies, upgrade and replacement of detector parts have to be envisaged.
- Session 5 (post-LHC accelerators, Canelli): many circular and linear collider options exist, but in the end money will be available for just one. The decision timetable for the ILC in Japan is unclear; positions re LHC HL and re the next collider will have to be defined soon.

⁹ <https://indico.cern.ch/getFile.py/access?contribId=20&sessionId=10&resId=1&materialId=slides&confId=239949>

¹⁰ <https://indico.cern.ch/getFile.py/access?contribId=21&sessionId=10&resId=0&materialId=slides&confId=239949>

¹¹ <https://indico.cern.ch/getFile.py/access?sessionId=14&resId=1&materialId=0&confId=239949>

[Rubbia suggests bringing the 80/100 km tunnel in the CERN region quickly on the table, in order to safeguard also CERN. Kilminster insists that the world physics community should be at that table and decide first what physics should be done. Kirch warns that pushing the tunnel too much could kill the ILC.]

- Session 6 (Detector R&D, Montaruli): Discussions between the many groups working on light detection techniques and concentration seems appropriate. Fruitful discussions between theory and experiment are very positive. Switzerland could host a facility for cryo-noble liquids (like Darwin).
- Session 7 (Neutrino and ApP experiments, Colangelo): Switzerland has a very rich and ambitious programme, which is mostly data driven (rather than theory driven). The present time horizon is 10-20 years; existing problems (e.g. not enough people) should be discussed and clarified.
- Session 8 (Low energy precision, Kilminster):
The next seven years are expected to be very rich with MEG, Mu3e and the muonic atom. Gravity experiments with antihydrogen have begun, with an expanded programme beginning in 2017.

Concluding, the Chair

- invites all participants to provide feedback regarding the meeting, the agenda, the timetable, the topics etc to be used for the future Plenary meetings;
- thanks all the persons that have contributed to the interesting meeting. He mentions specifically the Administrator to whom he bids an informal farewell, as he intends to leave at the end of the year (applause).

5 July 2013

written by: Jean-Pierre Ruder
approved by: Klaus Kirch

2013 CHIPP Annual Plenary Meeting – Programme

Monday, 24 June 2013 – Wednesday, 26 June 2013; Campus Sursee

Monday 24 June 2013

Board Meeting - (10:30-12:15)

- Conveners: Kirch, Klaus

Plenary Meeting: Introduction - (14:00-14:20)

- Conveners: Kirch, Klaus

time	title	presenter
14:00	Welcome	KIRCH, K.
14:05	Administrative and organisational set-up	RUDER, J.-P.
14:10	Specific information regarding the Campus	SEPPMANN, St.

Setting the Scene: European Strategy for Particle Physics - (14:20-15:40)

- Conveners: Kirch, K.

time	title	presenter
14:20	The Strategy process & comments	NAKADA, T.
14:40	Report from the Council meeting and its Strategy discussion	SCHNEIDER, O.
15:00	Statement from the SERI	MOOR, B.
15:20	Call for provocative statements wrt the strategy paper	

Viewpoints from CH-Theoretical Physics - (16:30-17:50)

- Conveners: Schneider, O.

time	title	presenter
16:30	Status/overview of theoretical particle physics in CH	COLANGELO, G.
16:50	Some implications for particle physics from the results of the Planck satellite	KUNZ, M.
17:10	Testing the Standard Model and waiting for Godot	SIGNER, A.
17:30	On theory after the Standard Model	DERENDINGER, J-P.

CHIPP Prize presentation - (18:00-18:40)

- Conveners: Colangelo, G.

time	title	presenter
18:00	CHIPP Prize award	COLANGELO, G.
18:10	CHIPP Prize presentation	FERTL, M.

Tuesday 25 June 2013

Full exploitation of LHC: Status and outlook - (08:30-09:50)

- Conveners: Schumann, M.

time	title	presenter
08:30	ATLAS physics results	DOGLIONI, C.
08:50	CMS physics results	TARONI, S.
09:10	LHCb physics results	ELSASSER, C.
09:30	Swiss involvement / contribution to LHC machine	PIELONI, T.

Full exploitation of LHC: CH involvement in detector upgrades and HL-LHC - (10:35-12:00)

- Conveners: Antusch, S.

time	title	presenter
10:35	Swiss involvement in LHCb upgrade	SCHNEIDER, O.
10:55	Swiss involvement in CMS upgrade	WALLNY, R.
11:15	Swiss involvement in ATLAS upgrade	WEBER, M.
11:35	Swiss contributions to accelerator R&D	GARVEY, T.

Future post-LHC High Energy Frontier Machines - (13:30-14:45)

- Conveners: Canelli, F.

time	title	presenter
13:30	High-energy frontier circular colliders (LHC + hi-lumi, HE-LHC, VLHC, TLEP)	ZIMMERMANN, F.
14:15	Linear colliders ILC - CLIC	RIVKIN, L.

Detector R and Future Higgs Physics Opportunities - (15:35-16:55)

- Conveners: Montaruli, T.

time	title	presenter
15:35	Detector R: cryo noble liquids	SCHUMANN, M.
15:55	R for CLIC detectors	ELSENER, K.
16:15	Precision tests of Higgs physics & the EW theory at a circular e ⁺ e ⁻ collider	BLONDEL, A.
16:35	Higgs Physics at the ILC	SPIRA, M.

Board Meeting - (17:00-18:30)

- Conveners: Kirch, Klaus

Wednesday 26 June 2013

CHIPP Report from Committees and Elections - (08:30-09:50)

- Conveners: Kirch, Klaus

time	title	presenter
08:30	CHIPP Outreach (incl. project report)	BECK, H-P.
08:40	CHIPP Computing Board	HAUG (FOR CHRISTOPH GRAB), S.
08:50	ACCU	WEBER, M.
09:00	ECFA	GARVEY (FOR L. RIVKIN), T.
09:10	ApPEC	MONTARULLI, T.
09:20	NuPEC	KRUSCHE, B.
09:30	SPS	SCHOPPER, A.
09:40	Elections	KIRCH, K.

Neutrino and Astroparticle Physics – Future CH-activities - (10:35-12:15)

- Conveners: Colangelo, G.

time	title	presenter
10:35	Neutrino oscillation experiments: OPERA, T2K, microboone	KRESLO, I.
10:55	CTA	MONTARULLI, T.
11:15	DARWIN	BAUDIS, L.
11:35	LBNO	RUBBIA, A.
11:55	Space based ApP	POHL, M.

Low Energy Precision Measurements – Future CH-activities - (13:40-15:00)

- Conveners: Kilminster, B.

time	title	presenter
13:40	MEG results and upgrade	GALLI, L.
14:00	Mu3e	BRAVAR, A.
14:20	Laser spectroscopy of muonic atoms	ANTOGNINI, A.
14:40	Measuring the gravitational acceleration of antimatter with an antihydrogen beam	STOREY, J.

Action items & the way forward - (15:30-16:00)

- Conveners: Kirch, Klaus