

Results of the Plenary meeting 2016 23 – 25 August 2016

Place of the meeting: Università della Svizzera Italiana (USI), Via Giuseppe Buffi 13, 6904 Lugano
Time of the meeting: 23 (9:15) – 25 (16:30) August 2016

The CHIPP Plenary meeting 2016 was held at the Università della Svizzera Italiana (USI) in conjunction with the annual meeting of the Swiss Physical Society (SPS). The SPS TASK session hosted the traditional CHIPP PhD/Postdoc days. The formal CHIPP Plenary was held at the start of the meeting.

The conference programme and the individual talks can be found at <https://indico.cern.ch/event/544702/>

This document is not meant as abstract or summary of the individual talks, but limits itself to a summary of the formal CHIPP Plenary and the CHIPP Prize award.

1. CHIPP Prize award

The CHIPP Prize for the best PhD student in experimental or theoretical particle physics is awarded for the ninth time. This year, the CHIPP Selection Committee decided to award the prize to Mohamed Rameez from the University of Geneva for his dissertation on dark matter searches with the IceCube neutrino detector in Antarctica. The laudatio says: “For his leadership in the searches for dark matter annihilation in the sun with the IceCube Neutrino Observatory and his contribution to their theoretical interpretation”. The Prize was given as part of the SPS Prize award ceremony held on Tuesday, 23 August 2016 between 15:30 and 17:00. The winner then presented his research activities during a plenary TASK session¹.

2. Formal CHIPP Plenary meeting

The formal CHIPP Plenary meeting was held on Tuesday, 23 August 2016, 9:15 – 11:50.

2.1. Welcome, news from CHIPP Board and Executive Board

In his opening presentation², the CHIPP Chair, Tatsuya Nakada, reminds the current composition of the Executive Board (EB) and announces the re-election – at the Board meeting of Monday, 22 August – of Adrian Signer for a 2nd 2-year term as EB member. Michele Weber was also elected as new EB member from January 2017 to December 2018 to succeed to Teresa Montaruli, who is thanks for her 4-year dedication as CHIPP EB member. The Chair then mentions the other decisions taken at the Board meetings since last year’s Plenary. Switzerland has now again a representative in the European Particle Physics Communication Network (EPPCN) with Marc Türler, who started this year and gives a brief report on his activities after item 2.5. The Chair also presents the recent CHIPP meetings and activities, in particular the country visit of Switzerland by the Restricted European Committee for Future Accelerators (RECFA) at ETHZ on 1st April 2017. This was followed by the Strategic Workshop on High-Energy Particle Physics in Switzerland (SWHEPPS) held at Ägerisee (ZG) on 7–9 June 2016, while the Zuoz Summer School was successfully held last week. He continues with the future activities, in particular the organisation of the CHIPP PhD Winter School to be held this time in Sörenberg the week of 13–17 February 2017. Lectures will cover collider, neutrino, and astroparticle physics with a balanced focus on experiment and theory. He finishes with the announcement of the next CHIPP Annual Plenary, which will again be in conjunction with the Swiss Physical Society and this time also with the Austrian Physical Society on 22–24 August 2017. The decision to not hold a separate CHIPP meeting was taken because of the special location at CERN and at the Centre International de Conférence de Genève (CICG).

¹ <https://indico.cern.ch/event/544702/contributions/2212887/>

² <https://indico.cern.ch/event/544702/contributions/2258578/>

2.2. Election of a Swiss representative in Plenary ECFA

The Chair introduces the topic by reminding that the election of Swiss representatives in the European Committee for Future Accelerators (ECFA) belongs to the CHIPP Plenary, based on a recommendation by the Board. He presents the four current Swiss representatives in ECFA and explains that Sigve Haug is not standing for re-election. To succeed him, there is only one nominated candidate standing for election, Domenico della Volpe (Uni. of Geneva), who is recommended by the Board to be elected. His CV was distributed before the meeting.

The Plenary – in open vote with unanimity and without abstentions – elects Domenico della Volpe for a 1st three-year term (Jan. 2017 – Dec. 2019) as Plenary ECFA representative.

Olivier Schneider notes that Domenico della Volpe is in the room. He stands up and gets applause.

→ Chair: to inform the ECFA Chair about this election.

2.3. Re-election of the Swiss representative in ACCU

The Chair reminds that the election of the Swiss representative in the Advisory Committee of CERN Users (ACCU) belongs to the CHIPP Plenary, based on a recommendation by the Board. Michael Dittmar (ETHZ) is finishing his 1st two-year term in December 2016. He is ready to serve for a 2nd term until December

The Plenary – in open vote with unanimity and without abstentions – re-elects Michael Dittmar for a 2nd two-year term (Jan. 2017 – Dec. 2018) as ACCU representative.

2018. The Board recommends to the Plenary this re-election.

→ Chair: to inform the ACCU secretariat about this election.

2.4. Admission of new CHIPP Honorary Members

The Chair reminds that, according to the Statutes, Honorary Membership is open to CHIPP Members who have retired from their active professional life or have acquired the status of Professor emeritus. He then presents the two new requests received this year. The Board recommends the two candidates for admission by the Plenary.

The Plenary – in open vote and with unanimity – approves the admission of two Honorary Board Members (Felicita Paus and Thierry Courvoisier).

2.5. CHIPP Computing Board report

Christoph Grab, the Chair of the CHIPP Computing Board, presents the status of operation of Swiss LHC computing within the Worldwide LHC Computing Grid (WLCG)³. He reminds that Switzerland operates a Tier-2 regional centre at the Swiss National Supercomputing Centre (CSCS) in Lugano serving all three experiments with Swiss participation: ATLAS, CMS and LHCb. It is supplemented by dedicated ATLAS Tier-2 resources at the AEC-UniBE and by indispensable, local Tier-3 clusters at EPFL, PSI, UniBE, UniGE and UZH. The Swiss network is assured by Switch. Grab also presents various plots on the cluster performance (>95% availability and reliability), the steady increase of the resources despite a flat budget, the resources usage and the data popularity per experiment. He then presents the status of the Swiss R&D project “LHConCray at CSCS” and also on the need to move from High Throughput Computing (HTC) to High Performance Computing (HPC) and Clouds. Giuseppe Iacobucci suggests quantifying the gain of using the expensive CRAY hardware. Lenny Rivkin and the Chair mention also the increasing needs of other communities in particular in astro-particles and astronomy. Grab agrees to discuss the various needs towards defining a common strategy.

2.6. CHIPP Outreach Board report

Hans Peter Beck, the Chair of the CHIPP Outreach Group, gives a very complete overview of recent outreach activities⁴, which are targeted to high-school students, teachers and the public. He mentions the Master Classes 2016, which are still increasing in size. They are now attracting some 12'000 high-school students in

³ <https://indico.cern.ch/event/544702/contributions/2258582/>

⁴ <https://indico.cern.ch/event/544702/contributions/2258583/>

47 countries, who become particle physicists at a nearby institute for a day. In Switzerland, Zurich (UZH & ETHZ) and Bern are participating, while Geneva benefits from the activities offered at CERN. Beck shows some pictures from the PSI Open Day and also from the itinerant bus “ETH unterwegs” bringing exhibition material and experiments directly to high schools. He then presents a series of slides reporting on the successful activities conducted in the frame of the ‘Interactions’ outreach project funded through SNSF-Agora, SERI and SCNAT. Also the programme is now over, all the past activities are kept on-line on a new SCNAT thematic portal on particle physics. This constitutes the multi-lingual continuation of ‘particlephysics.ch’ with a new layout and increased visibility on the SCNAT site. It is kept alive with regular news articles by Benedikt Vogel (science journalist) thanks to a substantial funding from SCNAT. CHIPP members are encouraged to contribute with ideas.

2.7. Advisory Committee of CERN Users (ACCU) report

Michael Dittmar, the Swiss ACCU representative, reminds in his report⁵ that there are yearly four ACCU meetings. He uses the opportunity to transfer information on some topics from the June meeting. The CERN Management/DG wishes to become stricter on security issues, in particular by the obligation to carry the CERN access card visible at CERN. Several ACCU delegates, including him, expressed an opposition to this new regulation. A short discussion followed expressing both the need for enhanced security and the need to keep an open spirit at CERN allowing for outreach, visits, etc. Dittmar then reports on the activities of the new CERN sector on International Relations and presents the foreseen update of the CERN Communication Strategy. He ends by inviting everybody to contact him about topics/problems/questions for the next meetings.

2.8. European Committee for Future Accelerators (ECFA) report

Lenny Rivkin, the Swiss Restricted ECFA representative, announces⁶ the upcoming 3rd ECFA HL-LHC Workshop to be held on 3–6 Oct. 2016 in Aix-les-Bains. He reminds the aims of the ECFA Detector Panel before presenting some slides on the Future Circular Collider (FCC) and also on the International Linear Collider (ILC) and the Compact Linear Collider (CLIC). A decision towards a next CERN project at the energy frontier is expected for the 2020 update of the European Strategy for Particle Physics. He ends by showing the list of recent and future ECFA meetings, including the Restricted ECFA country visit of Switzerland held on 1–2 April 2016 at ETHZ.

2.9. Astroparticle Physics European Consortium (APPEC) report

Teresa Montaruli, the Swiss APPEC representative, informs⁷ on the approved nomination of Mikhail Shaposhnikov as member of the Scientific Advisory Committee. She then presents the outcome of the APPEC Census to which all countries had to respond. Looking back at the APPEC 2008 roadmap, it appears to have been much too optimistic, with CTA and KM3NeT foreseen to be already operational since several years. Asked about the reasons of these delays, Maurice Bourquin explains that there is the issue of the availability of the funds, but also of the development of new technologies. A main problem for CTA was also that there was no real support from an agency like CERN or ESO. The management had to be developed from scratch. Montaruli then presents several slides on the preparation of the new APPEC Roadmap (2016–2020). She mentions the list of scientific questions in the four areas: 1) the high-energy universe, 2) the dark universe, 3) the mysterious neutrinos, and 4) the early universe. CTA and KM3NeT are both supported by APPEC. In the 2019–2020 period, APPEC wishes to converge on a strategy for ‘ultimate’ worldwide dark matter experiments and also double-beta experiments. The foreseen long-baseline neutrino experiments in the USA and in Japan are strongly endorsed by APPEC from a scientific point of view. After presenting the list of APPEC-related meetings, she presents a couple of slides on ATTRACT, a pan-European initiative for funding R&D on imaging and radiation sensors involving EU research infrastructures, as well as small and medium enterprises. She finishes by announcing the Gender in Physics Day to take place in Geneva on 26 January 2017. It is one of the many H2020 activities promoted/supported by APPEC.

2.10. Nuclear Physics European Collaboration Committee (NuPECC) report

This item is skipped, since Bernd Krusche, the Swiss representative in NuPECC, is absent.

⁵ <https://indico.cern.ch/event/544702/contributions/2258585/>

⁶ <https://indico.cern.ch/event/544702/contributions/2258586/>

⁷ <https://indico.cern.ch/event/544702/contributions/2258588/>

2.11. CERN Council report

Olivier Schneider, the Swiss scientific CERN Council delegate, reminds in his report⁸ the list of members of the Swiss delegation, and the members of the CERN directorate. Fabiola Gianotti is the new CERN DG since January 2016 and until the end of 2020 and Martin Steinacher (formerly at SERI) is Director for Finance and Human Resources for the same period. There is also a slightly modified CERN department structure with, in particular, a new sector for International Relations including education and outreach directed by Charlotte Lindberg Warakaulle (DK). The department of Theoretical physics has been restored with Gian Giudice (IT) at its head. He then mentions other elections/appointments with, from the Swiss perspective, Tatsuya Nakada being re-appointed as chair of the Scientific Policy Committee for a third one-year mandate starting on January 2016 and Laura Baudis appointed as member of this committee for a period of three years (2016-2018). Schneider goes on with the presentation of the CERN priorities and reminds the three pillars: 1) the full exploitation of the LHC and the HL-LHC, 2) the “diversity programme” with the neutrino platform and 3) the preparation of the CERN future with R&D and design studies for future accelerators (CLIC, HE-LHC and FCC). He then presents initiatives of the new DG on the increase of the LHC energy, the neutrino developments and CERN’s long-term future. The LHC plan for the coming decade is unchanged with the installation of the HL-LHC during LS3 (2024-2026). He reminds some facts on the HL-LHC upgrade, which was accepted as a new landmark project in the 2016 update of the ESFRI roadmap. The development for the HL-LHC leads to a budget deficit that exceeds the cash management capacity of CERN and need a credit facility. He finishes by presenting the new CERN member states and the status of the CERN enlargement process.

2.12. The Future Circular Collider (FCC) project

Lenny Rivkin presents the Future Circular Collider (FCC) project at CERN⁹. This special talk opens new long-term perspectives for CERN with a project to build a 100 TeV proton-proton collider to push the energy frontier. The 80 to 100 km long tunnel would circle under the lake of Geneva and behind the mountain Salève. This would need 16 Tesla dipole magnets. R&D work for such magnets is being conducted now as part of the Swiss Center for Accelerator Research and Technology (CHART). This new centre has benefitted from 2 Mio CHF seed funding from SERI. The main activity (60%) is on the super conducting magnet development, primarily the Canted Cosine Theta (CCT) design. Other activities are in beam dynamic studies for the FCC and THz laser acceleration. He finishes by reporting on the FCC week 2016 and announcing the next FCC week to be held in Berlin in May–June 2017.

6 August 2017

written by: Marc Türler

approved by: Tatsuya Nakada

⁸ <https://indico.cern.ch/event/544702/contributions/2258596/>

⁹ <https://indico.cern.ch/event/544702/contributions/2258596/>