

## Minutes of the Board meeting 2015-01 on 6 March 2015

Time of the meeting: Friday, 6 March 2015 from 13:15 to ~16:15  
Place of the meeting: Swiss National Science Foundation, Wildhainweg 21, Bern, meeting room 56

The Chair opens the meeting at 13:15 ([→ slides of the Chair](#))

### 1. Agenda ([→ document](#))

The Chair starts by welcoming the Board members, Honorary Board members and the Observers at the Board. He welcomes, as new Board member, Gino Isidori (excused) from the theory group of the Uni. of Zurich. Ereditato mentions also the arrival, just now, of Susanne Reffert as new SNSF professor in theoretical physics at the Uni. of Bern. The proposed agenda is approved.

### ADMINISTRATIVE ITEMS

#### 2. Apologies and Proxy votes

Active Board members (as of 5 March 2015): 66

Active Board members present: Baudis, Bay, Beck, Biland, Blondel, Canelli, Dissertori, Ereditato, Grab, Hildebrandt, Iacobucci, Kilminster, Kirch, Montaruli, Nakada, Ritt, Rivkin, Rubbia, Schneider (Chair), Schumann, Signer, Wallny, Weber, Wu

Other participants: Maillard (Obs. SNSF), Steinacher (Obs. SERI), Türlér (Admin.)

The Chair informs about the apologies received and about the proxy votes as announced before the meeting<sup>1</sup>.

Quorum: 22 votes (= 1/3 of the Board members; Art. 24.1 Statutes); Votes present: 24 + 7 proxies = 31

→ The quorum is reached.

#### 3. Minutes of the last meeting (2014-03 [6 November 2014]) ([→ document](#))

The Chair asks whether there are any comments concerning these minutes. Rivkin wonders with respect to item 10, whether Blondel is the coordinator of the FCC physics group for leptons only or also for hadrons.

This does not affect the minutes themselves and shall be clarified later when Blondel arrives. As there are no more comments, the Chair invites the Board to approve the minutes.

The Board unanimously approves the minutes (with thanks to the minute writer).
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### DECISION ITEMS

#### 4. Closure of the 2014 Accounts ([→ document](#))

##### 4.1 Annual Report on CHIPP Activities 2014

The Chair explains that CHIPP as member of SCNAT has to deliver an Annual Report to this organisation. Therefore, as it was done last year, the format of the CHIPP annual activity report is based on the SCNAT format. He notes a typo in the year on the first line to be corrected and asks for further comments. Rivkin suggests inserting “and accelerator developments” in the sentence on the posters for the CERN’s 60-years event: “[...] 15 posters on the Swiss involvement in particle physics experiments at CERN”. This is agreed.

##### 4.2 Annual Accounts 2014 (*Profit and Loss Statement; Balance Sheet*)

The Chair presents briefly the main incomes and expenditures of the Profit and Loss Statement. The

<sup>1</sup> Baudis (for *Isidori*), Canelli (for *Chiochia*), Dissertori (for *Pauss*), Iacobucci (for *Golling*), Montaruli (for *Mermod*), Signer (for *Spira*), Wu (for *Pohl*).

incomes amount to 108'014.89 CHF and the expenses to 114'358.59 CHF resulting in a loss of –6'343.70 CHF. This is reflected in the Balance Sheet by a corresponding decrease in asset from 69'818.85 at the end of 2013 to 63'475.15 at the end of 2014. This deficit is however less than in the approved budget of 2014 and is also lower than the increase in asset of 8'756.15 CHF in the accounts of 2013.

#### 4.3 Auditor's Report

The Chair presents the audit of the accounts by Spira and Iacobucci on 29 January 2015 in Bern together with the CHIPP administrator and the accountant Ms. Monika Röllin (UZH). He conveys the auditor's judgement that the statements fairly represent the financial position of CHIPP, have been prepared with care and comply with statutory requirements.

The Chair asks the audience for questions. As there are none, he proceeds with the request to the Board to approve the Annual Report 2014 with thanks to the writer and to follow the positive recommendation of the auditors by approving the Annual Accounts 2014.

The Board unanimously

- approves the CHIPP Annual Report 2014 to be made publicly accessible on the CHIPP website;
- approves the Annual Accounts, the Balance Sheet, and the Profit and Loss Statement for 2014;
- formally discharges the CHIPP EB and the CHIPP Administration for the year 2014, expressing at the same time its thanks and appreciation for the careful accounting.

→ Admin.: to make the report accessible and to provide the accounts to SCNAT

#### 5. Election of two auditors (→ [document](#))

The Chair reminds that an audit is mandatory by Swiss law for the CHIPP association. He thanks Iacobucci (UniGE) and Spira (PSI) for serving as auditors from 2013 to 2015. As they now wish to step down, the EB identified possible candidates without a call for nomination. This is motivated by the light task – a one-hour meeting per year – of this position. Kilminster (UZH) and Weber (Uni. BE) are both willing to serve as auditors for a three-year mandate, i.e. until June 2018, and not 2017 as stated in the distributed document.

In absence of the two candidates, the Board – in open vote and with unanimity – elects Ben Kilminster and Michele Weber as CHIPP account auditors for a three-year mandate from June 2015 to June 2018.

#### 6. Election of an observer at the Swiss Commission on Space Research (→ [document](#))

The Chair introduces the topic by explaining that the Commission of Space Research (CSR), which is part of SCNAT, asked CHIPP to nominate an observer to serve as official CHIPP–CSR link. He explains that the status would be similar to CHIPP Observers in the Board (i.e. without voting right) and that the CHIPP EB identified Xin Wu (UniGE) as a good candidate for this role. Asked by the Chair to say a few words, Wu states that he finds it important to have a connection with the CSR. All the main space actors are part of it and it is where science in space is discussed. He therefore agrees to take this responsibility. The Chair invites Xin to leave the room and asks for questions or remarks. Iacobucci notes that with Wu there will be three people from UniGE at the CSR, as Martin Pohl and Roland Walter are already full members of the CSR. The Chair takes note and asks the audience if this is seen as a problem. As this is not the case, he proceeds with the vote.

In absence of the candidate, the Board – in open vote and with unanimity – elects Xin Wu as the CHIPP observer in the Swiss Commission on Space Research for a renewable three-year mandate from March 2015 to December 2017.

→ Chair: to inform the CSR president about the election of Wu

### DISCUSSION ITEMS

#### 7. CHIPP Plenary 2015: sessions and speakers

The Chair reminds that the CHIPP Plenary 2015 will take place at the Château de Bossey in Céligny, near Geneva from Monday, 29<sup>th</sup> June to Wednesday, 1<sup>st</sup> July 2015. Some information is available on the CHIPP website. He then presents the tentative overall programme, which is similar to the one of Sursee in 2013 with two separate Board meetings totalising 3.5 hours and the formal Plenary meeting of 1.5 hours plus 45 minutes for the CHIPP Prize ceremony and talk. This leaves time for eight scientific sessions of 1.5 hour each. The proposal of the EB is to have this year a special theme devoted to technology transfer filling two

sessions, an emphasis on the LHC programme with three sessions and a review of other activities, with one session devoted to astroparticle physics, one to neutrino physics and one to future facilities. He then presents the schematic programme of each session, warning that names, subjects and timings are just ideas for the time being, as nothing is fixed or confirmed, and most people have not been contacted yet. Concerning the technology transfer session, Ereditato proposes Ugo Amaldi for medical applications. Blondel thinks that Steve Myers could be a better choice. Nakada proposes John Wormersley as an invited speaker to open the session<sup>2</sup>. Concerning the LHC session – which includes theory talks, as well as low energy and high precision physics – Iacobucci suggests a joint ATLAS-CMS talk on results as the two experiments probe the same physics. Ereditato finds this an interesting approach and encourages an intelligent way to combine the results and to present the complementarity of the two experiments. Wallny agrees to handle this in an “intelligent” manner. The session on future facilities is the most discussed. Schumann suggests adding DARWIN in this session, while Kirch and Blondel suggest adding the mu3e experiment. The Chair rather suggests the inclusion of the CERN neutrino platform in this session. Rivkin notes that there are many different kinds of future facilities that could fit. Blondel agrees on the ambiguity of what fits as future facility and now thinks that DARWIN, mu3e, Hyper-K and LBNF should rather be covered in the astroparticle and the neutrino sessions. Concerning the foreseen talk on the SHiP experiment, the Chair notes that there is more interest in Switzerland for SHiP than for linear accelerators. Kilminster mentions a deadline in April for SHiP, which would make a talk at the plenary timely. Asked by Nakada about the aim of this session, the Chair explains that it should be interesting and useful mainly for the younger people to hear about future facilities. Rivkin thinks that the session should help widening the horizon beyond tens of years of data taking at the LHC. Blondel suggests putting this in perspective with theory as the motivation for developing future facilities. Ereditato adds that one should indeed decide on whether to present technical features or the physics behind. Wallny is in favour of a balance between the two extremes of having only super technical talks on instrumentations and purely physical talks. Nakada suggests for the particular case of SHiP to first speak about the physics of the Heavy Neutral Leptons (HNL) and then on the facility. Rubbia mentions that electron beam dumps are scheduled for September at CERN with the aim to look for dark, heavy photons. This will be a long lasting effort on the 5- to 10-years timescale. He proposes to have a general review talk covering both beam dumps and SHiP. Rivkin finds this challenging and wishes to have a co-organiser of the session. Blondel volunteers to do so. Schumann finally asks about the available budget for inviting external speaker. The Chair mentions a small budget of the order of 1000–2000 CHF, but with some freedom to be increased, if needed. He then closes the discussion with the impression that there is general agreement on the proposed format.

→ EB: to follow-up the planning with session organisers and to invite speakers

## INFORMATION ITEMS

### 8. Recent evolution on neutrino experiments (→ slides)

The Chair invites Ereditato to present the latest evolution on neutrino physics. Ereditato reminds on the three steps of neutrinos experiments as presented by Blondel at the last Board meeting: the continuation of T2K and NA61, the development of WA105 and SBN, and preparing the future with participation to Hyper-K, LBNF, ArgonCube. These basic features stay unchanged, but there are notable developments in the past months. The Lol for participation in the Long Baseline Neutrino Facility (LBNF) at Fermilab was signed by 142 institutions (69 from the USA and 73 from 22 other countries), including Uni. Bern and ETHZ for Switzerland. Rubbia is a running candidate to become one of the two co-Spokespersons of the Experiments at LBNF (ELBNF)<sup>3</sup>. The ceremony to celebrate the creation of the Hyper-K proto-collaboration took place in Japan on 31 January 2015. Switzerland was represented by Blondel, Ereditato and Rubbia. Blondel is part of the Hyper-K Steering Committee of this experiment foreseen to start in 2025. The physics potential of Hyper-K is presented in a recent publication (arXiv:1502.05199) co-signed by ~250 authors. Ereditato then presents in some more detail the short baseline neutrino (SBN) programme at Fermilab, with pictures of MicroBooNE, LAr1-ND and ICARUS detectors. There are 218 collaborators to at least one of these three facilities. For Switzerland, there are: Rubbia and Nessi in ICARUS; Ereditato, Nessi and Weber in LAr1-ND; and Ereditato and Weber in MicroBooNE. Stage 1 approval of the SBN programme was granted by the

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<sup>2</sup> At the coffee break he proposes also Fernando Ferroni as an interesting keynote speaker.

<sup>3</sup> Rubbia has been elected at this important position the week after on 11 March 2015, together with Mark Thomson (Cambridge, UK).

FNAL DG on 5 February 2015. Ereditato then presents the rather aggressive schedule of the SBN detectors towards first data taking in 2018, and continues on ArgonCube. A Lol has been submitted on 18 February 2015 towards the construction and operation of an ArgonCube prototype in the framework of the CERN Neutrino Platform. This would extend Bern's R&D activities on liquid argon time projection chambers (LAr-TPC), and be a modular option for the LBNF or the SBN detector upgrade. Ereditato concludes by presenting all the achievements of the past with Swiss participation and then giving some rather personal considerations. In particular that it is evident that a Swiss participation in future large-scale experiments (ELBNF/Hyper-K) will require a coherent effort to ensure impact and optimal use of the available resources in terms of manpower and funding. This justifies the need for the completion of the White Paper to define the neutrino roadmap, but this needs flexibility to adapt our strategy in case of unexpected developments. Rubbia launches the discussion by noting that he did not had the chance to see the slides in advance, but that it is a fair summary, maybe a bit biased. He regrets that the huge momentum in the development of the CERN Neutrino Platform since November 2014 was not presented. He also regrets the absence of the LBNF schedule. The Chair understands that the three neutrino PIs are ready to finish the White Paper, possibly for the Board of June. Blondel is worried that things get obsolete as soon as written down. Ereditato suggests postponing this by 6 to 12 months to have things settle down. Rubbia thinks the situation will not change much in 6 months and notes that all three neutrino PIs are engaged in different programmes. Maillard gives the SNSF point of view, which understands that it is a very moving field, but sees the need of better coordination in Switzerland due to funding constraints. Nakada, being in the FLARE panel, understands this point of view. Steinacher adds that this was possible for the astroparticle field and should therefore also be possible for neutrino physics, with a completion by at least the end of 2015. The Chair reminds that he has asked in the name of the EB to have the White Paper progressing, but did not get a clear answer from the three PIs about their plans. Blondel says he did not refuse to do this by June. It is a good idea to do so, but one needs to find a process by which we can update it regularly. Ereditato adds that the neutrino community is not in chaos at the moment with clearly identified running experiments, as well as short- and long-term plans. Following both R&D for single and double phase LAr detectors is maybe too much, but one cannot kill T2K or another project. Montaruli mentions the Fermilab meeting on neutrinos to be held in April. This could provide interesting information and clarify the major deadlines as input for the White Paper. The Chair concludes by stating the wish to have the White Paper finalized. The EB shall discuss the schedule with the proponents.

→ EB: to discuss the schedule for completion of the White Paper

## **9. Outreach activities and SCNAT bicentennial celebration (→ slides)**

The Chair invites Hans Peter Beck to present an update on outreach activities and the SCNAT bicentennial celebration. Beck notes that the latter is now called 'Forschung live – Naturwissenschaften erleben' and gives the address where to inform SCNAT about any local outreach activity in 2015 to increase its impact by appearing in the official programme. He then presents the tour of this 'Research live' exhibition in 12 cities spread around Switzerland and reports that CHIPP has requested 29 kCHF for participation in the cities of Luzern, Aarau, and Sion. The idea is to screen the movie 'Particle Fever' on the Higgs discovery – at open-air cinema festivals in Aarau and Luzern – followed by a podium discussion<sup>4</sup>. Beck then moves to outreach activities noting that the SNSF Agora project 'Interactions' is officially terminated since 28 February. The requested prolongation of the project, 'Interactions II', was unfortunately rejected by SNSF. The evaluation notes a good programme lead by a competent team, but finds it expensive and that the impact in the society is not clear enough. Despite this, the plan is to keep 'particlephysics.ch' in four languages on-line. New content shall come this year related to the 'Research live' activities. More translations of content will be possible thanks to the 2015 SCNAT grant of 4 kCHF. He then reminds that Switzerland has still no delegate at the European Particle Physics Communication Network (EPPCN) since Beat Gerber retired a year ago. Benedikt Vogel is not directly interested, especially since the 'Interactions II' project was rejected. Beck then presents possible options for funding outreach in Switzerland and Europe. He notes that SNSF-Agora had 12 projects accepted in 2015 for a total of 1.6 MCHF. This is little compared to some European countries (Belgium, Germany, UK, ...) where there is a process to complement research funds by 1–3% of funds for related outreach. He suggests that this could become a model for Switzerland and would solve the CHIPP funding problems for outreach and the EPPCN delegate. Obviously, this would need more discussions. Other alternatives are the EU Horizon 2020 programme, but this would ideally need a European collaboration and the possible support from foundations. He concludes by presenting the International

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<sup>4</sup> This project has been accepted by SNSF on 12 March 2015 as an addition to the Agora project 'Interactions'.

Masterclasses, which will attract about 70 students from Bern and Zurich to be trained on ATLAS and CMS analysis for one day on 11 and 13 March 2015 in Bern and Zurich, respectively. He suggests that EPFL participates as well to the LHCb Masterclasses and possibly also the Uni. of Geneva independently of CERN. The Chair thanks Beck and asks for questions or comments. Blondel notes that outreach activities were always cut on his proposals to SNSF. Beck finds outreach important to get support for fundamental physics. Maillard comments on the rejection of 'Interactions II'. He reports that the success rate is only of about 20–30% in Agora and that the funding is not meant for the continuation of past activities. The discovery of the Higgs boson was obviously a great case for the first project 'Interactions', but for a new request, there must be new ideas. Kirch notes that SNSF could make it mandatory to have 1–3% devoted to outreach, but Maillard answers that this has been considered and was not found to be a priority in the current situation. Kirch imagines that the Agora pot could be distributed to the different research fields. Schumann is concerned that the outreach portals 'particlephysics.ch' will get obsolete soon, if we do not add new material. For instance, the restart of the LHC should appear there. Rivkin thinks that Horizon 2020 could be an interesting way to get funding for outreach activities. Asked by the Chair on the possibility of submitting a new Agora request, Beck proposes to think at new ideas to be submitted by the deadline of mid-August. The Chair concludes that this is to be discussed again.

→ Beck: to consider resubmitting an Agora request

#### **10. CHIPP Long Term Financial Tables**

The Chair reports that all project leaders have been invited in January to participate to a Working Group to discuss the format of the CHIPP Tables, as decided at the Board 2014-02. There were two volunteers, Iacobucci and Weber, who joined the EB, represented by the Chair and Wallny, for a videoconference on 26 February. The purpose of the tables was discussed, stressing the need for discussing priorities and strategies before LA FLARE and also as an 'early warning' for overall funding needs in the future. The slightly modified format proposed by the CHIPP Chair was positively received. Data collection will take place in April, for EB discussion in May and presentation to the Board in June.

→ Admin.: to provide the tables in the new format for data collection

#### **11. CHIPP PhD Winter School 2015**

Signer reports on the CHIPP PhD Winter School on behalf of Vincenzo Chiochia. The school was held in Grindelwald in the week 18–23 January 2015. It was attended by 18 students and 5 lecturers, with a rather uniform participation from Swiss geographic areas and a not too high gender imbalance. The feedback from the students was very positive. But, because of the problem to get enough students at the end of the registration in December 2014, students have been asked this time to come with suggestions for the next school. The reported suggestions are to keep covering all research areas of CHIPP; to make the school attractive to students in both theory and experiments; to consider including a topical seminar on a 'hot research topic' and/or technology transfer applications. The informal discussion sessions at the end of the day were appreciated, as well as the session allowing students to give a short presentation of their work. It was also proposed to incorporate frequent breaks for questions and discussions. The message is clearly to keep the school in the future. Signer notes that Chiochia will not organise this anymore as he is leaving academia at the end of March. One needs to have new ideas to make it work successfully. Weber notes that there are many schools and that there is the need to have something not covered already by others. On the possible competition with other schools, the Chair notes that at EPFL there is support for students to allow them to attend the CHIPP School in addition to another school. Wallny adds that this is also the case at ETHZ. Schumann considers to have it open to other countries, but then it needs to be cheaper, and thus not in a five star hotel. Kirch notes that in the Zuoz School there are many international participants and wonders if two schools are too much. Both Baudis and Montaruli find it indeed too expensive and they cannot afford to send their students. Wallny agrees to reduce the costs and to use the school for networking of PhD students in Switzerland. The Chair summarises that one needs to think about the frequency and the cost issue, but that there is no urgency. Ereditato wishes to thank Chiochia for having organised the school three times. The Chair agrees absolutely and expresses the gratitude of CHIPP for the perfect organisation of this school.

#### **12. CHIPP Prize 2015: announcement**

Signer goes on by reminding the current call for applications for the traditional CHIPP Prize to be awarded to the best PhD student in experimental or theoretical particle physics who has not yet submitted his/her thesis. The advertisement has been sent out on 2 February with a deadline on 31 March 2015. Board members are asked to encourage applications from their best PhD students. Signer adds that the selection committee and the procedure are unchanged for 2015, except for him now replacing Gilberto Colangelo as the committee

member from the EB. New elections and changes will be proposed at the Board 2015-03. Asked by Baudis whether a candidate can re-apply, Signer clarifies that this is possible as long as the criteria are still met (PhD thesis not yet submitted). The Chair wishes to see many applications.

### **13. SWHEPPS 2016: Strategy Workshop on High-Energy Particle Physics in Switzerland**

Wallny reminds about the project to organise a strategy workshop similar to the one on astroparticle and neutrino physics (SWAPS 2014), but this time on high-energy particle physics. He presents the main topics this workshop could cover and reminds that the funding request to SCNAT was submitted too early in 2014, but SCNAT promised to fund it in 2015. He welcomes Iacobucci as co-organiser representing the ATLAS experiment and wishes to have also one member from LHCb and somebody for the theory community. Concerning the time and place of the meeting he suggests the German-speaking part of Switzerland (e.g. Feusisberg, Aegerisee, or Schloss Wartegg) either in February or in June 2016. There were a few comments with Ereditato not so keen on the acronym 'SWHEPPS' and proposing a poll to decide between one week in February and one in June. Blondel suggests including more on future accelerators and detectors. Wallny answers that having a theory talk can also help to develop a strategy for the future and that with the first results from Run 2 at the LHC it might be the right time to hold this workshop. Nakada notes that the update of the roadmap of the European strategy will take place in 2018. Blondel agrees that a discussion in 2016 is timely to provide inputs to this update.

### **14. CHIPP EB in 2016: call for candidates**

The Chair reminds on the current composition of the CHIPP Executive Board (EB). Both Wallny and himself are finishing their mandate at the end of 2015. The Chair expresses the wish to step down at the end of this 2<sup>nd</sup> term, whereas Wallny is ready to serve for a 2<sup>nd</sup> term as EB member. The Board will soon receive a call for nominations towards the election at the Board meeting of June of two EB members for the period 2016–2017.

### **15. ECFA representatives in 2016: call for candidates**

The Chair presents the current members of the European Committee for Future Accelerators (ECFA). The Plenary ECFA has four members from Switzerland, while only Lenny Rivkin is in the Restricted ECFA. Rivkin and Olaf Steinkamp are both ready to serve for a 2<sup>nd</sup> 3-year mandate. A 3<sup>rd</sup> mandate is not possible for Terence Garvey, who should be replaced. CHIPP members will soon receive a call for nominations towards elections in June at the Plenary upon recommendation by the Board. Nakada's recollection is that one of the three plenary seats is for somebody from PSI. A Swiss internal rule – not imposed by ECFA – is to have one from the French- and one from the German-speaking part and one from PSI. Beck confirms this. Rivkin adds that there is no strict limit in the number of plenary members. Kirch recalls that three years ago there was the question whether ECFA will change its way of working. This was indeed considered and took a lot of energy but nothing concrete was done yet, according to Rivkin. Bay notes that PSI is currently overrepresented and Kirch thinks that there is no need to formalize the rule of a PSI representative too officially. The Chair concludes that, given the present circumstances, this rule shall not be part of the call for nominations, but will be remembered via the present minutes.

### **16. New Professorships at CHIPP Institutes: report from each institute**

As usual, the Chair invites Board members to report about any new professorship positions in CHIPP institutes. In Bern, there is the arrival of Susanne Reffert as new SNSF professor in theoretical physics and the prolongation of the SNSF professorship of Razvan Gornea<sup>5</sup>. In Geneva, Anna Sfyrla will start an assistant professorship in September on ATLAS. At EPFL, there is the current hiring of a new professor in mathematical physics, actually a string theorist. Nothing is reported for the other institutes.

### **17. Next CHIPP Board and Plenary meetings**

The Chair reminds on the dates of the next Board meetings to be held during the CHIPP Plenary at Château de Bossey (29 June – 1<sup>st</sup> July 2015). The first meeting will be on Monday, 29 June at 10:30 and the second on Tuesday, 30 June at 17:30, while the formal Plenary will be on July 1<sup>st</sup> at 9:00. The Board meeting of autumn will be on Friday, 23 October at 13:15. He also gives the information that the Plenary 2016 with the PhD-Postdoc days will be again in conjunction with the SPS meeting, which is being tentatively scheduled on the last week of August in Ticino. Ereditato apologizes that he will not be available on Monday, 29 June. Concerning the Plenary of 2016, Signer notes that the Zuoz School would be at the beginning of August, so

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<sup>5</sup> This extension is being cancelled since Gornea will start a new position at Carleton University in Ottawa, Canada on July 1<sup>st</sup>.

that there is no overlap. Asked by Kirch about which is exactly the 'last week of August', Beck promised to check this within the SPS<sup>6</sup>.

**18. A.O.B.**

None.

The Chair closes the meeting at 16:25.

10 April 2015

written by: Marc Türlér

approved by: Olivier Schneider

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<sup>6</sup> The reserved week is the week of 22–26 August 2016.