



REPORT

from

11th IPPOG meeting

IFJ PAN Krakow, 19 – 21 May 2016

(by Valérie Seguin)

PARTICIPANTS

COORDINATION TEAM (CT):

Marjorie Bardeen (Fermilab), Hans-Peter Beck (University of Bern), Valérie Seguin (CERN),

Local Organizer:

Krzysztof Wozniack (Poland)

MEMBERS DELEGATES:

Pedro Abreu (Portugal), Nicolas Arnaud (France), Marjorie Bardeen (United States of America), Hans Peter Beck (Switzerland), Beatrice Bressan (TOTEM), Andrej Gorisek (Slovenia), Despina Hatzifotiadou (ALICE), Caroline Hamilton (Australia), Daniel Lellouch (Israel), Natascha Hoermann (Austria), Michael Kobel (Germany), Rasmus Mackeprang (Denmark), Ivan Melo (Slovakia), Catia Peduto (Italy), Thomas Naumann (DESY), Dirk Ryckbosch (Belgium), Kate Shaw (ATLAS), Jonivar Skullerud (Ireland), Charles Timmermans (The Netherlands), Peter Watkins (United Kingdom), Krzysztof Wozniack (Poland).

ASSOCIATES:

Uta Billow (Masterclasses), Ken Cecire (Masterclasses), Steven Goldfarb (ATLAS), Marzena Lapka (CMS), Achintya Rao (CMS), Thomas Mc Cauley (CMS),

SPECIAL INVITED GUESTS:

Charlotte Warakaulle (CERN).

EXCUSED:

David Barney (CMS), Paul Jackson (Australia), Alberto Ruiz Jimeno (Spain), Rolf Landua (CERN), Kati Lassila-Pereni (Finland), Farid Ould Saada (Norway), Gabriel Stoicea (Romania), Nick Tracas (Greece), Sahal Yacoob (South Africa)

WEBPAGE:

<https://indico.cern.ch/event/513681/>

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1 GENERAL IPPOG ISSUES

1.1 WELCOMING WORDS FROM PROF. PAWEL OLKO, INSTITUTE OF NUCLEAR PHYSICS (IFJ PAN) SCIENTIFIC DIRECTOR AND HEAD OF THE CYCLOTRON CENTRE:

Prof. Pawel Olko welcomed the IPPOG members and wished them a fruitful and successful meeting at IFJ PAN.

1.2 IPPOG NEWS: Hans Peter Beck opened the session and thanked Krzysztof Wocniak for his invitation to IFJ PAN in Krakow and making this meeting possible.

- **NEW MEMBER:**

IPPOG has a new member: **Slovenia** has been recently voted in as 27th country in IPPOG. It's lead institute for particle physics is the Jožef Stefan Institute in Ljubljana, which is providing a national framework that includes the Universities of Ljubljana, Nova Gorica, and Maribor. Andrej Gorisek has been mandated as a Slovenian delegate to IPPOG.

- **NEW REPRESENTATIVES:**

Kati Lassila-Perini succeeding Riitta Rinta-Filppula (who retired after representing Finland since 1997) has been appointed by HIP to represent Finland to IPPOG. Kati coordinates the Data preservation and Open access project in CMS;

Charles Timmermanns succeeding Sasha Caron has been appointed by NIKHEF to represent The Netherlands to IPPOG. Charles started HISPARC in Nijmegen, a program for measuring cosmic rays in schools and received the EPS HEPP outreach prize in 2007.

- **Bulgaria membership:**

Stefan Piperov is now assistant professor at Brown University, Providence, Rhode Island and no longer the Bulgarian representative. Stefan is still the nominal contact for Bulgaria, replying to IPPOG emails, and is thus still figuring on the IPPOG member web page until a nomination of successor is declared by Bulgaria.

- **Formal and expressed interests for membership:**

With the participation of Zhi-Zhong Xing from IHEP Beijing to the 10th IPPOG meeting, November 2015 at CERN, **China** showed interest in joining IPPOG. In conclusion, China feels that they are not yet ready to embark in new projects involving high-school students, as the Chinese high-school curriculum offers little to no possibilities for extra-curricular activities. China will participate at the 2016 ICHEP in Chicago and will meet Marge to discuss it;

Belle II at KEK in Japan is interested in joining IPPOG. Toru Lijima, the Belle II outreach coordinator, and Zdenek Dolezal, Belle II outreach member, will attend 2016 ICHEP and will meet IPPOG members to discuss possibilities of joining for the Belle II collaboration.

Marcelo Gameiro Munhoz, from Universidade de São Paulo, Brazil, member of the ALICE collaboration and chair of the Education Committee of the Brazilian Physics Society, contacted IPPOG for a possible membership of **Brazil** to IPPOG. He will be at CERN in June and will meet Hans Peter to continue the discussions.

▪ **News on IPPOG/CERN staff:**

Hans-Peter thanked CERN for its continuing support and congratulated Barbora Gulejova on her baby boy, Kilian, who was born on 1st March 2016. He further welcomed Valérie Seguin, who is helping IPPOG during Barbora's maternity leave. Valérie will produce the report of this meeting in Krakow.

▪ **New associates in IPPOG:**

Jeff Wiener, CERNs Teacher Programme Manager;
Julia Woithe, CERNs S'Cool Lab Manager.

▪ **Professionalizing IPPOG:**

Two **newsletters** had been issued (September 2015 and February 2016); **Memorandum of understanding (MoU)** between IPPOG members had been drafted with the support of CERN legal services and its final version with a well defined IPPOG structure and activities is now ready. Hans Peter explained the long process of drafting such MoU and a discussion on its content is planned on Saturday morning.

▪ **Representation of IPPOG at conferences:**

EPS HEP 2015, Vienna: parallel sessions on education and outreach where the session chairs were IPPOG members;

Panel discussion – "IPPOG: experts in bringing new discoveries to the public" (Michael Kobel, IPPOG Germany);

EPS-HEP Outreach Prize give to Kate Shaw (IPPOG ATLAS).

LEPTON PHOTON 2015, Ljubljana: Plenary talk on "Education & Outreach" (Kate Shaw, IPPOG ATLAS);

ICNFP 2015, Crete: Invited plenary session on "Particle Physics Outreach in the LHC era: Higgs – what's next?" (Hans-Peter Beck, IPPOG Switzerland);

R-ECFA and P-ECFA reports: CERN Council congratulates IPPOG in its 177th meeting under the European Strategy matters of 11 September 2015;

Under the item 11 of its agenda (Report from IPPOG), "the Council took note of the report of the IPPOG Co-Chair, Dr. H. Beck, and congratulated the group on the continuing success and rapid growth of its Masterclass programme." (Hans-Peter Beck, IPPOG co-Chair).

Hans Peter presented the agenda of the two days of IPPOG meeting with its different panels discussions and the working groups members.

1.3 Greetings from Charlotte Warakulle, CERN's Director for International Relations:

Charlotte Warakulle presented herself and the new International Relations (IR) Sector with its structure and objectives. She expressed that IPPOG is a key partner in supporting CERN with its global mission. She reminded the importance of partnership between CERN and IPPOG and highlighted areas where CERN experience could be shared (such as support for the IPPOG website).

1.4 MoU discussion:

Hans Peter introduced the MoU document, which was done with the support and approval of Marge, Barbora Gulejova and the CERN Legal Service. The final draft of the IPPOG Collaboration MoU is a result of many discussions involving three CERN lawyers and HP over five months.

HP explained and detailed the MoU document, in particular its purpose, its membership, its governance and its funding. Many questions on the representation of collaboration, on eligibility of membership (representative of country) and on funding were raised.

Action: It was decided to create a small committee to look at the draft of the MoU in order to address such questions in particular the question of budget with a clear formulation of CERN support. It was agreed that Valérie will send an email to all IPPOG members to call for participation in this committee, which should conclude by the end of June 2016.

2 COUNTRY HIGHLIGHTS – COUNTRY REPORTS

2.1 Report from Greece – Nick Tracas:

Organization of International Masterclasses: 3 universities:

- Athens: Athens University, N.R.C. Democritus, NTUA: applications from 74 schools for 220 places;
- Thessaloniki University: applications from 70 schools for 100 places;
- Crete University: 100 students from 16 schools.

A special session: 2 seminars and a CMS virtual tour for 40 students of the “2nd chance school” in Trikala jail.

Other activities of N.R.C. Democritus (various talks, presentations, participation in the Athens Science festival, visits of many high schools).

2.2 Report from Poland – Krzysztof Wozniack:

Organization of 2016 Physics Masterclasses in Poland at 7 locations and of various lectures for students:

- Warszawa: University of Warsaw: 73 students;
- Łódź: National Centre for Nuclear Research – Cosmic Ray Laboratory: 80 students;
- Poznań: Adam Mickiewicz University: 70 students;
- Katowice: University of Silecia: 80 students;

- Krakow: Institute of Nuclear Physics, Polish Academy of Sciences: Bielsko-Biala: 105 students, Kraków: 122 students, Sandomierz: 100 students;
- Katowice: lectures in Youth Palace;
- Workshop in Sandomierz;
- Lectures at schools.

Participation at two bigger events:

- 19th Science Festival in Warszawa from 19-27 September 2015 with several lectures on results from LHC, with a muon detector and cloud chamber, lectures on the world of elementary particles and on quark-gluon plasma;
- Night of researchers in Kraków on 25 September 2015 where lectures on physics of neutrinos and Higgs particle discovery were held. A prototype of LHC model and a quark game is presented at the Science Festival of Kraków during this week of the IPPOG meeting, and participants will have time on Saturday afternoon to visit.

2.3 Report from Portugal – Pedro Abreu:

Activities taken place since the 10th IPPOG meeting:

- Project “radiation environment” turned “LAB-LEDs” with 30 schools;
- Strong networking with Portuguese Physics Society (SPF) and with Agência Ciência Viva;
- IDPASC Public sessions;
- Celebration of the 30th anniversary of LIP at the rectory of the Lisboa University (the preparation of 2016 exhibition on “challenges in Particle Physics for the next decades held at universities where LIP is present was introduced in detail by Pedro). The exhibition had been prepared by a professional communication/production team and includes 7 modules with 7 panels and the CERN MediaLab’s LHC Interactive Tunnel. At the end of each module, a table with some exhibits (SMALL PET detectors, gravitational lensing in Dark Matter, flippers, LIP’s Spark Chamber). The exhibition had been inaugurated in Braga by the Ministry of Science, Technology and Higher Education and is already receiving a great success (about 5000 visitors in 3 weeks in 3 places).

2016 Masterclasses: 15 sites and around 1500 participants, number decreasing due to the calendar next to the exams and to the financial crisis;

Funchal, Madeira Island: First participation

2.4 Report from United-Kingdom – Peter Watkins:

Presentation of other way to teach (Volume 1);

UK Outreach update:

- Institute for Research in Schools (IRIS), which supports teachers with resources, training and kit in their schools
 - CERN@school: project based in schools who have CERN@school kit and/or access data from these detectors. Since the end of 2015, 100 teachers and 100 pupils took this activity;
 - Associated projects:

- TimPix – linking with British ESA Astronaut Tim Peak, monitoring radiation the astronauts encounter. Data from Tim’s mission released and 80 schools are taking part in it;
 - LUCID – Langton Ultimate Cosmic Ray Intensity Detector;
 - ATLAS – Higgs hunters overview -
 - 164 schools and many universities and industries signed up to IRIS;
 - Contact person: Becky Parker;
- STFC outreach summary (Elizabeth Cunningham):
 - UK Masterclasses attendance: over 3500 students in 2015;
 - Feedback analysis from 150 UK teachers who organized school trips to CERN in 2015 (84 UK teachers visited as part of teacher program) – very positive results (95% of teachers intend to bring another group to CERN, improvement in the guide tour by better adapting their reply in terms of content, language and topic covered). This analysis had been transmitted to CERN visit services;
 - S’Cool Lab in September 2016 to January 2017: 32 UK applicants out of 88 received – 18 places were offered spaces – UK had the most applicants number and the highest number of offers;
 - 17 UK institutions run Masterclasses in 2015 with an attendance of over 2500 students.

2.5 Report from CMS – Marzena Lapka:

- New release of CMS data to the public via the CERN Open Data Portal;
- CMS produced 4 new LHC clips showing Higgs candidate events in CMS as animated 3D movies, also 120 images of CMS collisions have been produced by Valerio Jalongo, an Italian filmmaker working on a film about LHC and CERN.
- CMS visits: on site and virtual tours – next virtual visits in June 2016: Korea and Hong Kong – virtual visit with Lithuanian representatives;
- Video introducing CMS produced with support from DELL and released in September 2015 in 14 different language versions;
- CMS organized exhibitions: in Geneva, one in ECOLINT LGB sciART from October 2015 to February 2016 and one in Cité du Temps from February to April 2016 – in Greece at the Science festival in Athens from April 5th to 10th 2016 – in London at the University of Arts sciART collaboration from October 2015 to April 2016;
- The “CMS The Art of Science” book was featured in various press coverage such as SPIEGEL online, GOSSE creative news services, WhiteWall Magazin;
- CMS will participate at:
 - Vico Equense Naples INFN art@CMS exhibition;
 - US Science Festival;
 - Indian Science event;
 - DUBNA JINR 60 years;
 - Creations Project in Athens;

- During CMS week, CMS institutes shared their experience on specific education and outreach projects in their countries: 5 sessions since June 2015;
- Social media: CMS voices – tweeting about CMS;
- The Higgs Boson Goose game produced with CMS Bologna group and illustrated CMS activities and goals;
- CMS TEDx Talks: Exploring the Higgs-Boson particle at TEDxYouth in Zurich in April 2015 and How to turn LHC data into music at TEDxAUEB in Athens in March 2016;
- CMS new brochures;
- Next priorities:
 - Preparation for ICHEP in July: communication of physics results;
 - Release of CMS public website;
 - CMS participation in outreach sessions: LHCP and ICHEP.

2.6 New concepts for introducing the standard model:

Presentation of Michael Kobel for such program (content, locations, community, material – 4 volumes).

3 MASTERCLASS REPORT – Uta Billow and Ken Cecire

- Statistics of the evolution of International Masterclasses from 11 February to 23 March 2016:
 - 46 countries involved under the coordination of QuarkNet:
 - 43 institutes;
 - 48 Masterclasses – 33 CMS and 15 ATLAS;
 - 21 videoconf. with Fermilab;
 - 1183 students and 128 teachers.
 - Under the coordination of TU Dresden:
 - 169 institutes;
 - 228 Masterclasses – 125 ATLAS, 49 CMS, 34 LHCb, 20 ALICE;
 - 54 video conferences with CERN;
 - 11 777 students and 1098 teachers.
 - Performances of International Masterclasses:
 - From 2005 to 2016 the number increases as such:
 - From 18 to 46 countries;
 - From 58 to 213 institutes;
 - From 72 to 276 Masterclasses;
 - From 3K to 13K students;
 - From 12 to 75 video conferences;
 - Italy (2529), Portugal (1652) and France (1583) have the highest number of students;
 - Social media initiative – account set up in November 2015 - @physicsIMC;
 - The role of moderator was discussed – issues were raised such as:

- ✓ not easy to run the video conference while dealing with its technical aspects at the same time;
 - ✓ their training;
 - ✓ possibility to use volunteers;
- Slovenia held its first Masterclass in 2016;
- The Masterclasses in 2016 went well with stable measurements and working general methods. However, improvements could be done like new and simplified measurements, more data (CMS, ALICE), instructions for handling large Masterclass data download.
- International projects:
 - African School of Physics 2016 Outreach Program in August 2016;
 - LHC World Wide Data Day on 27 October 2016: 24 hours of video conference, use of short and easy measurements, develop local contacts and virtual training.
 - The international day of women and girls in Science will be on 11 February 2017 was mentioned with a view to set up a tailored video conference on the day, which will be advertised to all Masterclass Institutes.

4 PANEL DISCUSSIONS

4.1 E&O website – Steven Goldfarb

Members: Marge Bardeen, Steven Goldfarb, Michael Kobel, Marzena Lapka and Kate Shaw.

The group looked at various websites to consider different design and settings (website: Teilchenphysik).

It was recommended to hire a professional web designer to make a simple and efficient web package for the IPPOG web. It was noted the importance to look at existing template and the needs of updating it, if necessary. The possibility of shorten the existing address of `ippog.web.cern.ch` was mentioned.

4.2 Exhibitions

Members: Pedro Abreu, Despina Hatzifotiadou, Natascha Hoermann, Achintya Rao, Krzysztof Wozniak.

4.2.1 Exhibition in Austria, Vienna – Natascha Hoermann

Exhibition at the Vienna Museum of Natural History from 18 October 2016 to August 2017 – 550m² space with a light installation “Big Bang”, interactive touch-screen “Big Bang”, videos sound installations;

4.2.2 Exhibition in Portugal, Lisbon by Pedro Abreu

Exhibition “Particulas” is most for universities students with 7 modules of 7 panels each and a mock up of LHC. (see item 2.3 on Pedro’s report for further details).

4.2.3 Exhibition at CMS, CERN by Achintya Rao

LHC walls at Point 5 had been reviewed and completely redone. Panels explaining the LHC (reasons, structure, context);

4.2.4 Exhibition in Italy, Genova and at ALICE, CERN by Despina Hatzifotiadou

Inaugurated at the Festival della Scienza 2015, Genova from 22 October 2015 to January 2016 – its final destination will be the historic building of physics institute via Panisperma, Rome;

New ALICE exhibition – work planned to end at the end of 2016 with an introductory presentation on big wall, video mapping projection on one ton one ALICE mockup, detectors pieces inside mockup when possible and additional vitrines.

(See the presentation in indico for further information:

<https://indico.cern.ch/event/513681/contributions/2167582/attachments/1276286/1893678/panel-exhibitions.pdf>)

4.3 Physics – what is Theory? HEP relevance – Thomas Naumann

Members: Hans Peter Beck, Uta Bilow, Kenneth Cecire, Andrej Gorisek, Daniel Lellouch, Ivan Melo, Thomas Naumann and Jon-Ivar Skullerud.

The group focused on the outreach aspect and at the importance to avoid several negative connotations in the public.

The various possible definition of theory and the risk of some confusion in Science were explained. It was noted the value of showing the limits of Science with honesty – examples of announcing the Higgs Boson and the LHC “bumps”.

4.4 Special events – Peter Watkins

Members: Nicolas Arnaud, Caroline Hamilton, Catia Peduto, Dirk D E Ryckbosch, Valérie Seguin and Peter Watkins.

The group presented three public events (National Science Week and “Collision” arts competition in Australia, Extreme physics competition in UK, 2015 TEDxCERN at CMS, CERN), two cosmic rays events (HISPARC, classroom testing and Science festival workshop in Gent) and two first detection of gravitational waves (the discovery of gravitational waves in September 2015: its announcement and a special event in Italy in the Auditorium Parco della Musica in Rome) and highlighted the best practices and lessons learnt in each event.

5 WORKING GROUPS AND ACTIVITIES

5.1 Bringing Masterclasses to new countries – Ken Cecire and Uta Billow

- Masterclasses (MC) in Russia: start in Dubna and/or in Moscow;
 - Spreading the use of connections with Institutes nearby countries such as Armenia;
 - All 4 LHC experiments;
 - Action: to work with Ivan Belotelov to establish the first MC.
- International schools and outreach to schools:
 - Discussed with virtual CMS MS with American International School in Riyadh
 - Tutors: André David and Salvador Carillo at CERN, Ken Cecire at TU Dresden;
 - Administration by Marzena Lapka and Achintya Rao;

- On site-facilitator: Cody Schellenberger and other faculty at AIS-R
 - 4 video conferences: introduction for teachers, for students, mid-course questions, final results, practical application and discussion;
 - Other international schools:
 - AIS-R is an international school;
 - Teacher at Concordia International School, Shanghai has been doing MC for several years;
 - Most international schools use the International Baccalaureate Curriculum, which includes particle physics;
- **Actions:**
 - To meet with International Baccalaureate Organization HQ in Geneva at the next IPPOG meeting, to implement a worldwide data on 27th October 2016 and to continue development of virtual MC, website, videos.
 - African School of Physics: Rwanda 2016 – **Action:** Sahal Yacoob to continue to work with Ketevi to put MC in place and to get a facilitator for it.
- **New country projects:**
 - Abha Eli organized MC in Nepal, India and Pakistan;
 - Kate Shaw in discussion with Venezuela about particle physics resources they are building;
 - New countries becoming associates members at CERN – Mongolia, Sri Lanka, Albania and Bangladesh;
 - Kate Shaw's 3 tiers of new MC prospect countries:
 - Tier 1 – CERN institutions and prospective CERN institutions;
 - Tier 2 – not CERN – connected but with good physics at universities and labs;
 - Tier 3 – no strong physics program and/or very limited internet (or none);
- **Actions:** Develop and make available MC-in-a-box (see <https://quarknet.i2u2.org/page/masterclass-box>);
 - Make contacts with physicists in prospective of new countries;
 - Work with teachers at HST.

5.2 Enabling cosmic rays globally – Charles Timmermans

- Issues were identified such as:
 - Analysis of the differences and similarities between experiments;
 - How to share data (Open Cosmics initiative from Achintya) and how to improve the data (VISPA tool);
 - Additional groups (Belgium interests and Denmark: 9 quarknet detectors).

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- The idea to use a professional database was mentioned in order to make such data useful for the teachers (ex.: Neutrino database). The importance of the format of downloaded files had been pointed out;
 - Teacher projects: 52 high-schools are working on data at the moment using one detector.

5.3 Enabling virtual visits at new site – Steven Goldfarb and Marzena Lapka

- **Definition**, goals, target audience and content of virtual visits were looked at such as:
 - On site remote video interaction between scientists and public;
 - Goals: interactive engagement with public and communication training of collaboration members;
 - Target audience: general public, teachers, students and secondary schools;
 - Content: science exploration is exciting and worthwhile and showing that scientists are people too;
 - The virtual visits are no more than one hour;
 - More than one site can connect to the same virtual workshop where a physicist will be able to answer queries. In CMS, there is a recommended scenario with specific time to support the teacher. It was said that it would be good to set up a survey before the virtual visit to see the knowledge of the public and to better prepare it (on-going CMS action).
 - A list of participating institutes can be found on indico: <https://indico.cern.ch/category/5975> (CMS) and <https://cern.ch/atlas-virtual-visit/Languages.html> (ATLAS);
- **Strategy:**
 - Bookings through:
 - Collaboration members;
 - Schools finding it through website or word of mouth;
 - Existing clients;
 - Masterclasses: schools requesting visits before or during the day of MC;
 - Outreach group initiatives;
 - Follow-up: recordings, evaluations and letters of appreciation.
 - Value of a coherent and global strategy between experiments and laboratories as the possible contribution of IPPOG were explained.

5.4 IPPOG participation at conferences – Pedro Abreu

- Pedro reminded about the mandate of the working group and presented an updated list of upcoming conferences of 2016 (see the presentation in indico for the full list);
- The list will be added to the IPPOG website;
- A question of referencing the talks on behalf of IPPOG was raised.

6 VARIOUS REPORTS AND PRESENTATION

6.1 LHCP & ICHEP E&O DISCUSSION – Marjorie Bardeen and Kate Shaw

- ICHEP 2016, Chicago – Education and Outreach plans:
 - 3 equal opportunities sessions with about 18 talks with special sessions for participants (lunch&learn topics), sessions with the press, use of social media plus equal opportunities activities;
 - 2 Diversity & Inclusion sessions;
 - Equal opportunity plenary speaker;
 - Outreach to the community:
 - Public lecture (Barry Barish, LIGO);
 - Physics slam;
 - Pop up physics in collaboration with the Chicago public library;
 - Teacher programs (Neutrinos);
 - Project of flash mob: 3 colors of hats (blue for neutrino, red for collider and another one)
- LHCP Lund, Sweden from 13 to 18th June 2016
 - Kate presented the detailed program with the outreach sessions (first time – 2 hours on Monday afternoon). LHCP is held every year.
 - Outreach event on “Physics and our view of the world”;
 - LHCP social media:
 - Two Twitter accounts.

6.2 2016 TEDxCERN Presentation – Valérie Seguin

- Valérie presented the next TEDxCERN (4th edition), which will be held on Saturday 5 November 2016 in the main auditorium of CERN.
 - Theme: Ripples of curiosity with 12 speakers from physics and astronomy to life sciences and health, from artificial intelligence to energy, from climate to education;
 - Focus of this year: worldwide engagement from webcast partners (Institutes, universities, schools, science museums, etc.);
 - Involvement for the TEDxCERN webcast partner (a room, internet connection, invitation to people of local community, promote it and tune into the event);
- **Action:** Call for people to host a TEDxCERN webcast for the event around the world. Valérie asked IPPOG members to share the information (brochure of TEDxCERN webcast partners) or any contact who may be interested to host such event.

6.3 Update on Open Data – Thomas Mc Cauley

- Impact and usage of CERN open data:
 - Usage of 2010 data (released in 2014);

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- No tracking of user behavior and activity;
 - User feedback and support via the open data-support@cern.ch;
 - Update news is (mostly) CMS-centric;
 - 2016 data release (of 2011 update);
 - CERN press release on 20 November 2014 to communicate about 1st publication of LHC data.
-