

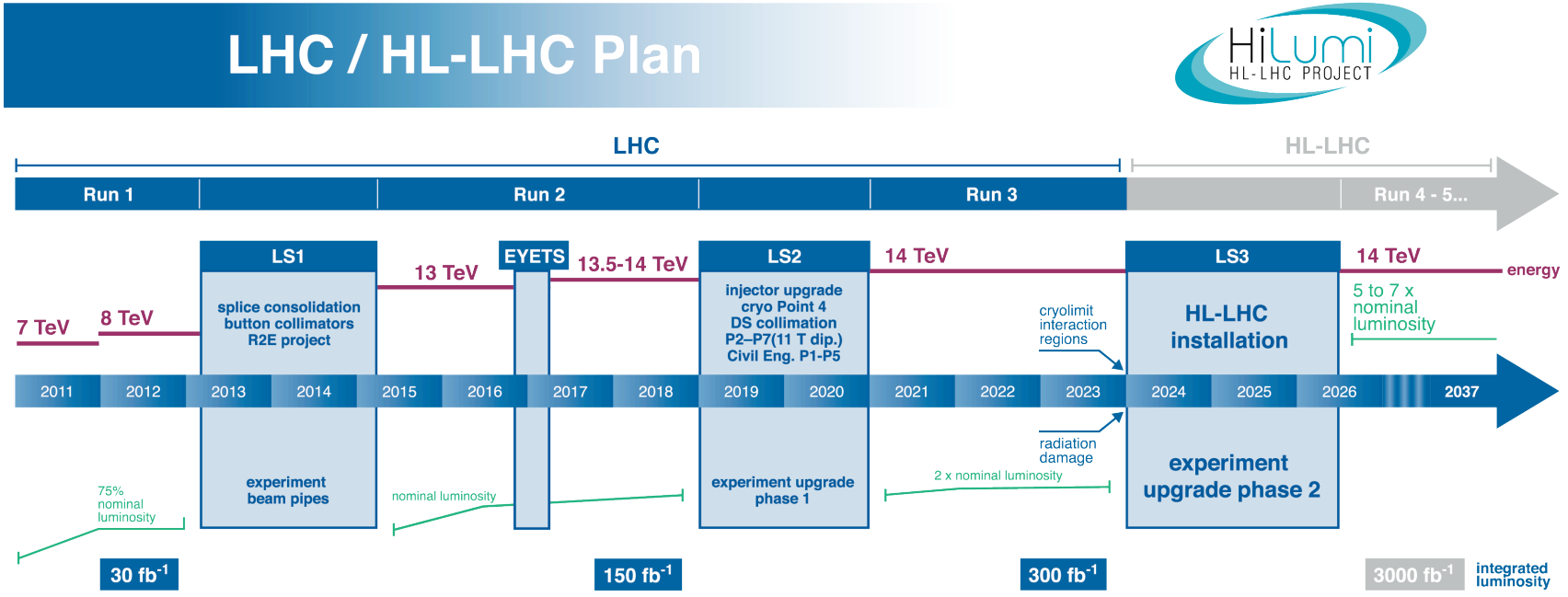
Introduction to the 12th General Meeting of the LHCHSWG

M. Pieri for
the Steering Committee

General Assembly of the LHCHSWG
CERN, October 12-14, 2016

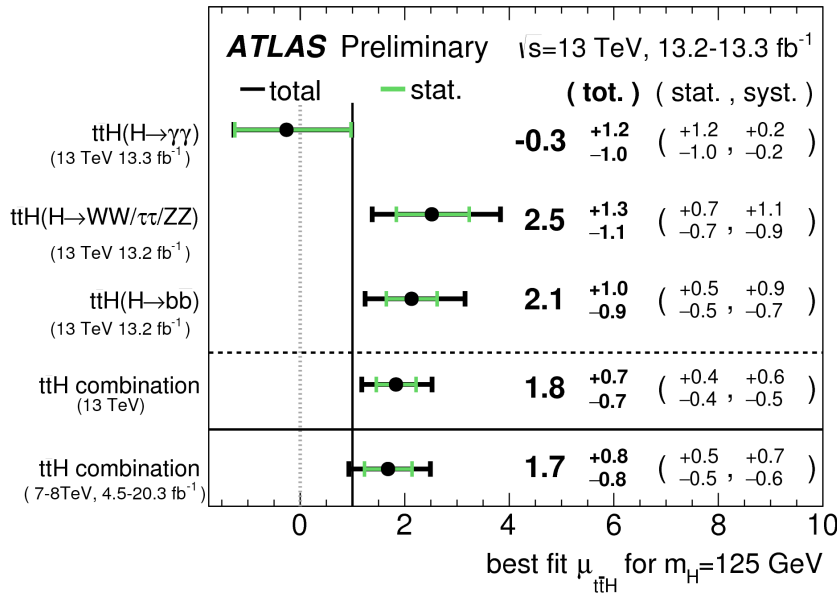
- Introduction
- Status of Yellow Report 4
- Recent LHCHXSWG changes
- Some of the points to be addressed this week
- Agenda of the meeting and dinner

- A lot of work was carried out during the last couple of years in view of the LHC Higgs Run 2 analyses and summarized in Yellow Report 4 (YR4)
- Higgs precision measurement just started and will last many years



- LHC is performing well in 2016 and seems that uncertainties should decrease steadily
- Maximum instantaneous luminosity $\sim 1.4 \times 10^{34} \text{ cm}^{-2}\text{s}^{-1}$, above the design performance

- Many measurements start to be already now to be limited by systematic uncertainties



Example ttH
(results at 13 TeV)

CMS has similar results

- In many case the collaboration between experimentalists and theorists is mandatory to address these issues and reduce systematic uncertainties
- Areas where improvements are more crucial should be identified

- Yellow Report 4 is now really at the final stage of editing
- Being submitted to the arXiv these days
- It contains all that was planned for the Run 2 Higgs analyses
- WG2: in Run 1 main experimental results were for μ - and κ -frameworks. Different options to move forward being explored by the experiments. Some more work is needed to come to final convergence. Probably experiments will continue with μ and κ fits for some more time

- During the last meeting in January we had some discussions about some possible reorganization of the LHCHXSWG
- After lengthy discussions, given that the management of the two collaborations is not in favour of formal changes, it was decided not to formally change the management layers
- The agreed (informal) changes will be the following:
 - SC members will be appointed as contacts to the WGs, participate in the meetings and report to the SC
 - WG conveners will be more independent in their decisions
 - Subgroups may dynamically evolve, according to the needs as will emerge from the discussions during the next 3 days
- Keep the LHCHXSWG current structure:
 - WG1: SM cross sections and BR
 - WG2: H(125) properties
 - WG3: BSM Higgs bosons

- Steering Committee (recently appointed members in red)
 - Daniel de Florian (Theo), Christophe Grojean (Theo), Gino Isidori (Theo), Bill Murray (ATLAS), Marco Pieri (CMS), Laura Reina (Theo), Pierre Savard (ATLAS)
 - Welcome to the new members and thanks to the outgoing members:
 - Fabio, Markus and Sasha
 - Chiara and Rei will also leave after the completion of YR4
 - Sasha's replacement for CMS will come soon
- WG and subgroup conveners conveners
 - Now that the SC is almost complete we can start replacing all WG conveners whose term is ending:
 - With them will also review all subgroups and make the needed replacements among the conveners
- TAC (recently appointed members in red):
 - Sally Dawson, Stefan Dittmaier, Nigel Glover, Fabio Maltoni, Alex Pomarol Clotet, Gavin Salam, Carlos Wagner, Michelangelo Mangano
 - Welcome to the new members and thanks to the outgoing members:
 - Lance and Zoltan

- Status and need of different subgroups:
 - Review the status of all groups and replace where necessary the outgoing conveners
 - Do we want to hibernate some of them in the cases where the results in YR4 are deemed sufficient?
- Shall we add to our tasks more Higgs background studies?
- Do we want to have formal WG2 subgroups?
- In future, do we want to aim at more YRs or promote the presentation of results as internal notes/official reports?
- When shall we have next general meeting?



Agenda of the meeting:



<https://indico.cern.ch/event/555360/other-view?view=standard>

The 12th Workshop of the LHC Higgs Cross Section Working Group

12 Oct 2016, 09:00 → 14 Oct 2016, 17:00 Europe/Zurich
500-1-001 - Main Auditorium (CERN)

WEDNESDAY, 12 OCTOBER

10:00 → 10:30	Introduction	500-1-001 - Main Auditorium
10:00	Introduction	30m
10:30 → 13:00	Session 1	500-1-001 - Main Auditorium
10:30	Recent SM Higgs results at ATLAS and CMS Speaker: David Sperka (University of Florida (US))	30m 500-1-001 - Main Auditorium
11:00	Off-shell: report and plans Speakers: Livia Soffi (Cornell University (US)), Nikolas Kauer (Royal Holloway, University of London)	30m 500-1-001 - Main Auditorium
Videconferene Rooms LHC_Higgs_XS_WG_workshop		
YR4_Offshellinterfer...		
11:30	Coffee Break	30m
12:00	VBF+VH report and plan Speaker: Luca Perrozzi (Eidgenossische Tech. Hochschule Zuerich (CH))	30m 500-1-001 - Main Auditorium
12:30	tH+tH report and plans Speakers: Laura Reina (Florida State University (US)), Stefan Guindon (University at Albany (US))	30m 500-1-001 - Main Auditorium
13:00 → 14:00	LUNCH	
14:00 → 17:30	Session 2	500-1-001 - Main Auditorium
14:00	BR report and plans Speaker: Sven Heinemeyer (CSIC (Santander, ES))	30m
14:30	ggF: report and plans Speaker: Dag Gillberg (CERN)	30m
15:00	PDF4LHC: report and plans Speaker: Joey Huston (Michigan State University (US))	30m
15:30	Coffee break	30m

WG1

16:00	Fiducial Cross sections: report and plans Speakers: Florian Urs Bernlochner (University of Bonn (DE)), Pier Francesco Monni (University of Oxford (GB)), Predrag Milenovic (CERN), Sabine Kraml (Centre National de la Recherche Scientifique (FR))	30m
16:30	Simplified Cross Sections: report and plans Speaker: Frank Tackmann (Deutsches Elektronen Synchrotron (DE))	30m
17:00	PO: report and plans Speaker: Gino Isidorfi (Universitaet Zuerich (CH))	30m

WG2

THURSDAY, 13 OCTOBER

09:00 → 12:30	Session 3	500-1-001 - Main Auditorium
09:00	Morphing Speaker: Lydia Brenner (Nikhef National institute for subatomic physics (NL))	30m
09:30	EFT validity in VBF Higgs production for CP measurements Speaker: Ulrike Schnoor (Albert-Ludwigs-Universitaet Freiburg (DE))	30m
10:00	tH in the EFT at NLO in QCD Speaker: Eleni Vryoniidou (Universite catholique de Louvain)	30m
10:30	Coffee break	30m
11:00	EW Higgs production in SM EFT at NLO in QCD Speaker: Ken Mimasu (Particle Physics-Rutherford Appleton Laboratory-STFC - Science &)	30m
11:30	Non-interference theorems Speaker: Francesco Riva (CERN)	30m
12:00	HH: report and plans Speaker: Magdalena Slawinska (Nikhef National institute for subatomic physics (NL))	30m

WG2

12:30 → 14:00	LUNCH	
14:00 → 18:00	Session 4	500-1-001 - Main Auditorium
14:00	Recent BSM Higgs results at ATLAS and CMS Speaker: Nikolaos Rompotis (University of Washington (US))	30m
14:30	neutral MSSM Higgses: report and plan Speaker: Stefan Rainer Liebler (Deutsches Elektronen-Synchrotron (DE))	30m
15:00	neutral MSSM part II Speaker: Sven Heinemeyer (CSIC (Santander, ES))	30m
15:30	Coffee Break	30m
16:00	bbH report and plans Speaker: Marius Wiesemann (Universitaet Zuerich (CH))	30m
16:30	Exotic Decay: report and plans Speaker: Stefania Gori (Perimeter Institute/Cincinnati University)	30m
17:00	WG3 summary Speaker: Roger Wolf (KIT - Karlsruhe Institute of Technology (DE))	30m
19:30 → 22:30	Workshop Dinner	TBA
19:30	WORKSHOP DINNER, Instructions Dinner_Bergerie.pdf Dinner_Bergerie.pptx	2h

WG3

FRIDAY, 14 OCTOBER

09:00 → 12:00	Operation of the WG and future work: Discussion	40-S2-A01 - Salle Anderson
12:00 → 13:00	Conclusion	40-S2-A01 - Salle Anderson

Dinner on Thursday



Ferme Auberge
du Pré Velard



Bergerie
de
Baizenas

www.aubergeprevelard.com

If there are any changes compared to the registration, please let us know as soon as possible.

Please pay to Chiara or Marco 35 Eur or 40 Sfr whenever possible

On Thursday 13th

Let's meet at the entrance of the Hostel at 7:00 sharp, to car-pool and leave.

Instructions:

- 1) from CERN go to Saint Genis, at the first big round-about go left direction Thoiry.
- 2) Take the first exit "St Genis - Sergy" . At the round about go straight towards the mountains, leaving the Holiday Inn on your right.
- 3) At the end of the road there is a T cross. Turn right, and then immediately (i.e. ~10 meters) left (direction Gex)
- 4) Take the second road on your left (i.e. ~400 meters after), called Chemin de Baizenas (a panel will indicate the bergerie/restaurant).
- 5) Continue straight up towards the mountains for about 500 meters.
- 6) The chalet is on your right.

<https://goo.gl/maps/npwyp7c4SkR2>

