

The 18th Workshop of the LHC Higgs Working Group

Report of Contributions

Contribution ID: 1

Type: **not specified**

Introduction

Primary authors: Dr KARLBERG, Alexander (University of Oxford); CAMPBELL, John; MALCLES, Julie (Université Paris-Saclay (FR)); DI NARDO, Roberto (Università e INFN Roma Tre (IT))

Presenters: Dr KARLBERG, Alexander (University of Oxford); CAMPBELL, John; MALCLES, Julie (Université Paris-Saclay (FR)); DI NARDO, Roberto (Università e INFN Roma Tre (IT))

Session Classification: Wednesday Afternoon

Contribution ID: 2

Type: **not specified**

ggF - theory update

Wednesday 1 December 2021 13:00 (10 minutes)

Presenter: JONES, Stephen Philip (University of Durham (GB))

Session Classification: Wednesday Afternoon

Contribution ID: 3

Type: **not specified**

VBF

Wednesday 1 December 2021 13:25 (20 minutes)

Presenter: DE MARIA, Antonio (Nanjing University (CN))

Session Classification: Wednesday Afternoon

Contribution ID: 4

Type: **not specified**

VH

Wednesday 1 December 2021 13:50 (20 minutes)

Presenter: CALANDRI, Alessandro (Eidgenoessische Technische Hochschule Zuerich (CH))

Session Classification: Wednesday Afternoon

Contribution ID: 5

Type: **not specified**

tH/ttH: experiment summary

Wednesday 1 December 2021 14:15 (15 minutes)

Presenter: MCFAYDEN, Josh (University of Sussex)

Session Classification: Wednesday Afternoon

Contribution ID: 6

Type: **not specified**

Offshell - theory summary

Wednesday 1 December 2021 14:50 (10 minutes)

Presenter: KAUER, Nikolas (Royal Holloway, University of London)

Session Classification: Wednesday Afternoon

Contribution ID: 7

Type: **not specified**

PDF4LHC update

Friday 3 December 2021 14:30 (20 minutes)

Primary author: THORNE, Robert Samuel (University College London (UK))

Presenter: THORNE, Robert Samuel (University College London (UK))

Session Classification: Friday Afternoon

Contribution ID: 8

Type: **not specified**

Higgs pT Spectrum and Total Cross Section with Fiducial Cuts at Third Resummed and Fixed Order in QCD

Friday 3 December 2021 14:00 (20 minutes)

Primary authors: MICHEL, Johannes (MIT CTP); EBERT, Markus (MIT)

Presenters: MICHEL, Johannes (MIT CTP); EBERT, Markus (MIT)

Session Classification: Friday Afternoon

Contribution ID: 9

Type: **not specified**

Offshell - experiment summary

Wednesday 1 December 2021 15:00 (10 minutes)

Presenter: KYRIACOU, Savvas (Johns Hopkins University (US))

Session Classification: Wednesday Afternoon

Contribution ID: 10

Type: **not specified**

Single and Double Higgs processes: Interpretation in the k_λ and EFT frameworks

Friday 3 December 2021 13:00 (20 minutes)

Primary author: DE BLAS, Jorge (Universidad de Granada (ES))

Presenter: DE BLAS, Jorge (Universidad de Granada (ES))

Session Classification: Friday Afternoon

Contribution ID: 11

Type: **not specified**

Exotic Decay Working Group Summary

Thursday 2 December 2021 13:00 (20 minutes)

Presenter: SHUVE, Brian (Harvey Mudd College)

Session Classification: Thursday Afternoon

Contribution ID: 12

Type: **not specified**

Extended Higgs Theory Summary

Thursday 2 December 2021 13:30 (10 minutes)

Presenter: ROBENS, Tania Natalie (Rudjer Boskovic Institute (HR))

Session Classification: Thursday Afternoon

Contribution ID: 13

Type: **not specified**

MSSM Working Group Summary (Theory)

Thursday 2 December 2021 14:00 (10 minutes)

Presenter: BAGNASCHI, Emanuele Angelo (Universita e INFN Roma Tre (IT))

Session Classification: Thursday Afternoon

Contribution ID: 14

Type: **not specified**

NMSSM Working Group Summary

Thursday 2 December 2021 14:30 (20 minutes)

Presenters: WINTERBOTTOM, Daniel (Imperial College (GB)); MÜHLEITNER, Milada Margarete; MÜHLEITNER, Milada (KIT - Karlsruhe Institute of Technology (DE)); ELLWANGER, Ulrich Bernhard (Université Paris-Saclay (FR)); ELLWANGER, Ulrich (University Paris 11)

Session Classification: Thursday Afternoon

Contribution ID: 15

Type: **not specified**

MSSM Working Group Summary (Experiment)

Thursday 2 December 2021 14:15 (10 minutes)

Presenter: BARKLOW, Tim (SLAC National Accelerator Laboratory (US))

Session Classification: Thursday Afternoon

Contribution ID: 16

Type: **not specified**

WG activity on STXS ggF uncertainties (1.2): Summary and presentation of final results

Wednesday 1 December 2021 16:10 (20 minutes)

Presenter: ABIDI, Haider (Brookhaven National Laboratory (US))

Session Classification: Wednesday Afternoon 2: Working Group 2

Contribution ID: 17

Type: **not specified**

Kappa_lambda from single Higgs measurements: towards a common parametrisation

Wednesday 1 December 2021 16:34 (20 minutes)

Presenter: MANZONI, Stefano (CERN)

Session Classification: Wednesday Afternoon 2: Working Group 2

Contribution ID: **18**

Type: **not specified**

Shedding light on the Higgs: EFT modelling and sensitivity to Higgs couplings to virtual photons

Wednesday 1 December 2021 16:58 (20 minutes)

Presenter: KYRIACOU, Savvas (Johns Hopkins University (US))

Session Classification: Wednesday Afternoon 2: Working Group 2

Contribution ID: 19

Type: **not specified**

Differential fiducial measurements next steps and combination

Wednesday 1 December 2021 17:46 (20 minutes)

Presenter: CHEN, Mingshui (Chinese Academy of Sciences (CN))

Session Classification: Wednesday Afternoon 2: Working Group 2

Contribution ID: **20**

Type: **not specified**

Introduction

Thursday 2 December 2021 16:00 (5 minutes)

Session Classification: Thursday afternoon 2

Contribution ID: 21

Type: **not specified**

Experimental Overview

Thursday 2 December 2021 16:05 (30 minutes)

Presenter: BETTI, Alessandra (Southern Methodist University (US))

Session Classification: Thursday afternoon 2

Contribution ID: 22

Type: **not specified**

Resonant Benchmarks for Spin-0 HH, SH and SS

Thursday 2 December 2021 16:35 (20 minutes)

Presenter: AZEVEDO, Duarte (Karlsruhe Institute of Technology (DE))

Session Classification: Thursday afternoon 2

Contribution ID: 23

Type: **not specified**

Effective Field Theory for Higgs Pair Production

Thursday 2 December 2021 16:55 (20 minutes)

Presenter: GROEBER, Ramona (Università di Padova and INFN, Sezione di Padova)

Session Classification: Thursday afternoon 2

Contribution ID: 24

Type: **not specified**

Higgs Boson Pair Production at NNLO in the Large- M_t Expansion

Session Classification: Thursday afternoon 2

Contribution ID: 25

Type: **not specified**

Higgs Pair Production at Approximate NNLO QCD with Anomalous Couplings

Session Classification: Thursday afternoon 2

Contribution ID: 26

Type: **not specified**

Machine Learning Augmented Probes of Light Yukawa Couplings from Higgs Pair Production

Session Classification: Thursday afternoon 2

Contribution ID: 27

Type: **not specified**

Multiscalar Final States in the TRSM

Session Classification: Thursday afternoon 2

Contribution ID: 28

Type: **not specified**

Cuts for two-body decays at colliders

Friday 3 December 2021 13:30 (20 minutes)

Presenter: SALAM, Gavin (University of Oxford)

Session Classification: Friday Afternoon

Contribution ID: 29

Type: **not specified**

ggF - experimental results

Wednesday 1 December 2021 13:10 (10 minutes)

Presenter: LANGFORD, Jonathon Mark (Imperial College (GB))

Session Classification: Wednesday Afternoon

Contribution ID: **30**

Type: **not specified**

Contributed Lightning Talks

Thursday 2 December 2021 17:15 (40 minutes)

Session Classification: Thursday afternoon 2

Contribution ID: **31**

Type: **not specified**

Higgs studies from Snowmass

Friday 3 December 2021 15:40 (20 minutes)

Presenter: VERNIERI, Caterina (SLAC National Accelerator Laboratory (US))

Session Classification: Friday afternoon 2

Contribution ID: 32

Type: **not specified**

WG1: summary and plans

Friday 3 December 2021 16:10 (15 minutes)

Presenters: KARLBERG, Alexander (University of Oxford); CAMPBELL, John; MALCLES, Julie (Université Paris-Saclay (FR)); DI NARDO, Roberto (Università e INFN Roma Tre (IT))

Session Classification: Friday afternoon 2

Contribution ID: 33

Type: **not specified**

WG2: summary and plans

Friday 3 December 2021 16:30 (15 minutes)

Presenters: PANICO, Giuliano (University of Florence and INFN Florence); MIMASU, Ken (King's College London); DONEGA, Mauro (ETH Zurich (CH)); BERGER, Nicolas (Centre National de la Recherche Scientifique (FR))

Session Classification: Friday afternoon 2

Contribution ID: 34

Type: **not specified**

WG3: summary and plans

Friday 3 December 2021 16:50 (15 minutes)

Presenters: MOHAMMADI, Abdollah (University of Wisconsin Madison (US)); STEGGEMANN, Jan (EPFL and ETH Zurich (CH)); SCHAARSCHMIDT, Jana (University of Washington (US)); SU, Shufang (University of Arizona); LIU, Zhen; LIU, Zhen (University of Minnesota); LIU, Zhen (University of Minnesota (US))

Session Classification: Friday afternoon 2

Contribution ID: 35

Type: **not specified**

HH: summary and plans

Friday 3 December 2021 17:10 (15 minutes)

Presenters: BROST, Elizabeth (Brookhaven National Laboratory (US)); MAZZITELLI, Javier (Max-Planck-Institut für Physik (DE)); CADAMURO, Luca (University of Florida (US)); MÜHLEITNER, Margarete (Karlsruhe Institute of Technology (DE)); LU, Nan (California Institute of Technology (US)); GROEBER, Ramona (Università di Padova and INFN, Sezione di Padova)

Session Classification: Friday afternoon 2

Contribution ID: **36**

Type: **not specified**

General discussion

Friday 3 December 2021 17:30 (30 minutes)

Session Classification: Friday afternoon 2

Contribution ID: 37

Type: **not specified**

EFT in light of the latest Higgs/STXS measurements

Wednesday 1 December 2021 17:22 (20 minutes)

Presenter: VRYONIDOU, Eleni (University of Manchester (GB))

Session Classification: Wednesday Afternoon 2: Working Group 2

Contribution ID: **38**

Type: **not specified**

tH/ttH: theory summary

Wednesday 1 December 2021 14:30 (15 minutes)

Presenter: REINA, Laura (Florida State University (US))

Session Classification: Wednesday Afternoon

Contribution ID: 39

Type: **not specified**

Extended Higgs Experimental Summary

Thursday 2 December 2021 13:45 (10 minutes)

Presenter: D'ALFONSO, Mariarosaria (Massachusetts Inst. of Technology (US))

Session Classification: Thursday Afternoon

Contribution ID: 40

Type: **not specified**

Introduction and welcome

Wednesday 1 December 2021 12:55 (5 minutes)