

1st FCC Physics Workshop



Report of Contributions

Contribution ID: 1

Type: **not specified**

Introduction and goals of the workshop

Monday 16 January 2017 09:00 (10 minutes)

Presenter: MANGANO, Michelangelo (CERN)

Contribution ID: 2

Type: **not specified**

Status of the FCC project

Monday 16 January 2017 09:10 (30 minutes)

Presenter: BENEDIKT, Michael (CERN)

Contribution ID: 3

Type: **not specified**

FCC accelerator parameters

Monday 16 January 2017 09:40 (30 minutes)

Presenter: ZIMMERMANN, Frank (CERN)

Contribution ID: 4

Type: **not specified**

Detector concepts for FCC-ee

Monday 16 January 2017 11:00 (25 minutes)

Presenter: ROLANDI, Gigi (CERN)

Contribution ID: 5

Type: **not specified**

Detector concepts for FCC-ep

Monday 16 January 2017 11:25 (25 minutes)

Presenter: LAYCOCK, Paul James (University of Liverpool (GB))

Contribution ID: 6

Type: **not specified**

FCC-hh detector concept, simulation activities and physics benchmarks

Monday 16 January 2017 11:50 (25 minutes)

Presenter: SELVAGGI, Michele (CERN)

Contribution ID: 7

Type: **not specified**

FCC Physics simulation framework and activities

Monday 16 January 2017 10:10 (25 minutes)

Presenter: LINGEMANN, Joschka (CERN)

Contribution ID: 8

Type: **not specified**

Status of CEPC/SPPC, detector simulations and physics studies

Monday 16 January 2017 12:15 (25 minutes)

Presenter: RUAN, Manqi (Chinese Academy of Sciences (CN))

Contribution ID: 9

Type: **not specified**

FCC: synergies and complementarities

Friday 20 January 2017 13:30 (30 minutes)

Presenter: BLONDEL, Alain (Universite de Geneve (CH))

Session Classification: Summary and Final discussion

Contribution ID: **10**

Type: **not specified**

Discussion

Friday 20 January 2017 14:00 (1 hour)

Session Classification: Summary and Final discussion

Contribution ID: **11**

Type: **not specified**

QCD@FCC-ee

Monday 16 January 2017 14:00 (35 minutes)

Presenter: SKANDS, Peter (Monash University (AU))

Session Classification: QCD and jet dynamics

Contribution ID: 12

Type: **not specified**

QCD measurements at FCC-ep

Monday 16 January 2017 14:35 (35 minutes)

Presenter: CAMARDA, Stefano (CERN)

Session Classification: QCD and jet dynamics

Contribution ID: 13

Type: **not specified**

Jet properties and boosted objects in the multi-TeV region

Monday 16 January 2017 15:35 (25 minutes)

Presenter: PIERINI, Maurizio (CERN)

Session Classification: QCD and jet dynamics

Contribution ID: 14

Type: **not specified**

EW Splitting Functions and High Energy Showering

Monday 16 January 2017 15:10 (25 minutes)

Presenter: TWEEDIE, Brock (University of Pittsburgh)

Session Classification: QCD and jet dynamics

Contribution ID: 15

Type: **not specified**

Small-x at 100 TeV

Monday 16 January 2017 16:30 (20 minutes)

Presenter: SLADE, Emma (University of Oxford)

Session Classification: QCD and jet dynamics

Contribution ID: 16

Type: **not specified**

Small x Physics in ep, eA and pA

Monday 16 January 2017 16:50 (30 minutes)

Presenter: ARMESTO PEREZ, Nestor (Universidade de Santiago de Compostela (ES))

Session Classification: QCD and jet dynamics

Contribution ID: 17

Type: **not specified**

QGP studies with FCC-Heavy Ions

Monday 16 January 2017 17:20 (35 minutes)

Presenter: APOLINARIO, Liliana (Instituto Superior Técnico)

Session Classification: QCD and jet dynamics

Contribution ID: **18**

Type: **not specified**

2016 progress in two-loop electroweak pseudoobservables and further prospects [S-matrix approach]

Tuesday 17 January 2017 09:15 (20 minutes)

Presenter: GLUZA, Janusz (U. Silesia)

Session Classification: EW probes

Contribution ID: **19**

Type: **not specified**

Recent IR-Improved Results for Precision FCC Physics

Tuesday 17 January 2017 09:35 (20 minutes)

Presenter: WARD, Bennie (Baylor University (US))

Session Classification: EW probes

Contribution ID: 20

Type: **not specified**

Theory calculations needed to fully exploit the FCC experimental sensitivity

Tuesday 17 January 2017 09:55 (20 minutes)

Presenter: HEINEMEYER, Sven (CSIC (Madrid, ES))

Session Classification: EW probes

Contribution ID: **21**

Type: **not specified**

EFT at FCC

Tuesday 17 January 2017 10:15 (30 minutes)

Presenter: FALKOWSKI, Adam (LPT Orsay)

Session Classification: EW probes

Contribution ID: 22

Type: **not specified**

EW measurements at the WW threshold + Z pole obs& polarization

Tuesday 17 January 2017 11:15 (30 minutes)

Presenter: AZZURRI, Paolo (Universita di Pisa & INFN (IT))

Session Classification: EW probes

Contribution ID: 23

Type: **not specified**

V pair production and EFT

Tuesday 17 January 2017 11:45 (25 minutes)

Presenter: RIVA, Francesco (CERN)

Session Classification: EW probes

Contribution ID: 24

Type: **not specified**

Precision EW physics at 100 TeV with DY

Tuesday 17 January 2017 12:10 (25 minutes)

Presenter: RUDERMAN, Joshua Thomas (NYU)

Session Classification: EW probes

Contribution ID: 25

Type: **not specified**

EW measurements at FCC-eh

Tuesday 17 January 2017 12:35 (25 minutes)

Presenter: KLEIN, Max (University of Liverpool (GB))

Session Classification: EW probes

Contribution ID: 26

Type: **not specified**

SM Higgs measurements at FCC-ee

Tuesday 17 January 2017 14:00 (30 minutes)

Presenter: APYAN, Aram (Massachusetts Inst. of Technology (US))

Session Classification: Higgs: prospects for measurements

Contribution ID: 27

Type: **not specified**

The SM Higgs Chapter of the FCC-hh report: lessons and future work

Tuesday 17 January 2017 14:30 (25 minutes)

Presenter: MANGANO, Michelangelo (CERN)

Session Classification: Higgs: prospects for measurements

Contribution ID: **28**

Type: **not specified**

HH in VBF at 100 TeV

Tuesday 17 January 2017 15:10 (20 minutes)

Presenter: BISHARA, Fady

Session Classification: Higgs: prospects for measurements

Contribution ID: 29

Type: **not specified**

Boosted and off-shell Higgs channels at 100 TeV

Tuesday 17 January 2017 15:30 (20 minutes)

Presenter: SALVIONI, Ennio (University of California Davis (US))

Session Classification: Higgs: prospects for measurements

Contribution ID: **30**

Type: **not specified**

SM Higgs measurements at FCC-ep

Tuesday 17 January 2017 15:50 (25 minutes)

Presenter: TANAKA, Masahiro (Tokyo Institute of Technology (JP))

Session Classification: Higgs: prospects for measurements

Contribution ID: **31**

Type: **not specified**

Higgs production in HI collisions at FCC

Tuesday 17 January 2017 16:40 (20 minutes)

Presenter: D'ENTERRIA, David (CERN)

Session Classification: Higgs: prospects for measurements

Contribution ID: 32

Type: **not specified**

Multihiggs production at high energy

Tuesday 17 January 2017 17:00 (20 minutes)

Presenter: KHOZE, Valentin V (Durham University)

Session Classification: Higgs: prospects for measurements

Contribution ID: **33**

Type: **not specified**

The Global EW fit and constraints on new physics at FCC-ee

Tuesday 17 January 2017 17:35 (30 minutes)

Presenter: DE BLAS, Jorge (Padova Univ.)

Session Classification: EFTs and global fits

Contribution ID: 34

Type: **not specified**

Effective field theories in future Higgs factories

Tuesday 17 January 2017 18:05 (20 minutes)

Presenter: GU, Jiayin (IHEP, CAS)

Session Classification: EFTs and global fits

Contribution ID: 35

Type: **not specified**

G³ EFT probes with multijets

Tuesday 17 January 2017 18:25 (20 minutes)

Presenter: KUTTIMALAI, Silvan (II Physikalisches Institut-Fakultaet fuer Physik-Georg-August-U)

Session Classification: EFTs and global fits

Contribution ID: 36

Type: **not specified**

Preliminary studies on the $hh \rightarrow VVbb$ decay channels

Tuesday 17 January 2017 14:55 (15 minutes)

Presenter: DI MICCO, Biagio (Universita' degli Studi di Roma Tre e Istituto Nazionale di Fisica Nucleare (INFN))

Session Classification: Higgs: prospects for measurements

Contribution ID: 37

Type: **not specified**

CPV in Yukawa couplings

Presenter: YU, Felix (Johannes Gutenberg University Mainz)

Session Classification: EFTs and global fits

Contribution ID: **38**

Type: **not specified**

BSM higgs naturalness implications overview

Wednesday 18 January 2017 09:00 (30 minutes)

Presenter: KATZ, Andrey (CERN)

Session Classification: BSM Higgs and EW baryogenesis

Contribution ID: **39**

Type: **not specified**

BSM higgs cosmo implications overview

Wednesday 18 January 2017 09:30 (30 minutes)

Presenter: RAMSEY-MUSOLF, Michael (U. Massachusetts Amherst)

Session Classification: BSM Higgs and EW baryogenesis

Contribution ID: 40

Type: **not specified**

Singlet higgs production

Wednesday 18 January 2017 10:00 (25 minutes)

Presenter: BUTTAZZO, Dario (Universität Zürich)

Session Classification: BSM Higgs and EW baryogenesis

Contribution ID: 41

Type: **not specified**

2HDM @ 100 TeV

Wednesday 18 January 2017 10:25 (25 minutes)

Presenter: SU, Shufang (University of Arizona)

Session Classification: BSM Higgs and EW baryogenesis

Contribution ID: 42

Type: **not specified**

Exotic higgs decays in double higgs production

Wednesday 18 January 2017 11:20 (25 minutes)

Presenter: SPANNOWSKY, Michael (IPPP Durham)

Session Classification: BSM Higgs and EW baryogenesis

Contribution ID: 43

Type: **not specified**

BSM Higgs at FCC-ep

Wednesday 18 January 2017 12:10 (25 minutes)

Presenter: KLEIN, Uta (University of Liverpool (GB))

Session Classification: BSM Higgs and EW baryogenesis

Contribution ID: 44

Type: **not specified**

Heavy scalars in the minimal left-right model at FCC-hh

Wednesday 18 January 2017 12:35 (15 minutes)

Presenter: ZHANG, Yongchao (Université Libre de Bruxelles)

Session Classification: BSM Higgs and EW baryogenesis

Contribution ID: 45

Type: **not specified**

QCD at FCC

Wednesday 18 January 2017 14:00 (30 minutes)

Presenter: D'ENTERRIA, David (CERN)

Session Classification: FCC: discussion on ee, ep and pp complementarity

Contribution ID: 46

Type: **not specified**

Higgs and EW physics at FCC

Wednesday 18 January 2017 14:30 (45 minutes)

Presenters: WULZER, Andrea (CERN); GROJEAN, Christophe (DESY (Hamburg) and ICREA/IFAE (Barcelona))

Session Classification: FCC: discussion on ee, ep and pp complementarity

Contribution ID: 47

Type: **not specified**

Neutral LLP searches at FCC

Wednesday 18 January 2017 16:30 (25 minutes)

Presenter: CURTIN, David (University of Maryland)

Session Classification: BSM searches: neutrinos and LLPs

Contribution ID: 48

Type: **not specified**

Charged LLP searches at FCC

Wednesday 18 January 2017 16:55 (25 minutes)

Presenter: Dr IWAMOTO, Sho (Technion)

Session Classification: BSM searches: neutrinos and LLPs

Contribution ID: 49

Type: **not specified**

Heavy neutrinos at FCC (implications for the detector design)

Wednesday 18 January 2017 17:20 (25 minutes)

Presenter: BLONDEL, Alain (Universite de Geneve (CH))

Session Classification: BSM searches: neutrinos and LLPs

Contribution ID: **50**

Type: **not specified**

Neutrinos at FCC

Presenter: Prof. HERNANDEZ, Pilar

Session Classification: BSM searches: neutrinos and LLPs

Contribution ID: 51

Type: **not specified**

Golden channels for heavy neutrino searches at the FCC

Wednesday 18 January 2017 17:45 (25 minutes)

Presenter: CAZZATO, Eros (University of Basel)

Session Classification: BSM searches: neutrinos and LLPs

Contribution ID: 52

Type: **not specified**

Search for Sterile Neutrinos in Trilepton Final States at Hadron Colliders

Wednesday 18 January 2017 18:10 (20 minutes)

Presenter: WANG, Kechen (Texas A&M University)

Session Classification: BSM searches: neutrinos and LLPs

Contribution ID: 53

Type: **not specified**

SUSY searches at FCC

Thursday 19 January 2017 09:00 (30 minutes)

Presenter: AGRAWAL, Prateek (University of Maryland)

Session Classification: BSM searches

Contribution ID: 54

Type: **not specified**

Composite resonances

Thursday 19 January 2017 09:30 (30 minutes)

Presenter: VIGNAROLI, Natascia

Session Classification: BSM searches

Contribution ID: 55

Type: **not specified**

Probing Higgs and relaxion physics at the high energy precision frontier

Thursday 19 January 2017 10:00 (30 minutes)

Presenter: PEREZ, Gilad (CERN & Weizmann)

Session Classification: BSM searches

Contribution ID: 56

Type: **not specified**

Neutral naturalness

Thursday 19 January 2017 11:00 (30 minutes)

Presenter: VERHAAREN, Christopher (University of Maryland, College Park)

Session Classification: BSM searches

Contribution ID: 57

Type: **not specified**

BSM physics at FCC-ep: SUSY, Contact Interactions, and more

Thursday 19 January 2017 11:30 (30 minutes)

Presenter: D'ONOFRIO, Monica (University of Liverpool (GB))

Session Classification: BSM searches

Contribution ID: 58

Type: **not specified**

Exploration of preonic models at the FCC based pp, ep, mu-p and gamma-p colliders

Thursday 19 January 2017 12:00 (20 minutes)

Presenter: SULTANSOY, Saleh (TOBB University of Economics and Technology)

Session Classification: BSM searches

Contribution ID: 59

Type: **not specified**

Top quarks at FCC-ee

Thursday 19 January 2017 14:00 (35 minutes)

Presenter: AZZI, Patrizia (INFN Padova (IT))

Session Classification: Top and flavour

Contribution ID: **60**

Type: **not specified**

$t\bar{t} t\bar{t}V, (t\bar{t}H), t\bar{t}VV, 4t$ production, highly boosted tops

Thursday 19 January 2017 14:35 (30 minutes)

Presenter: PAGANI, Davide

Session Classification: Top and flavour

Contribution ID: **61**

Type: **not specified**

Top properties & decay studies at FCC-hh

Thursday 19 January 2017 15:05 (25 minutes)

Presenter: STOLARSKI, Daniel (Carleton University (CA))

Session Classification: Top and flavour

Contribution ID: **62**

Type: **not specified**

Top quark physics in FCC-ep

Thursday 19 January 2017 15:30 (30 minutes)

Presenter: ÇAKIR, Orhan (Ankara University (TR))

Session Classification: Top and flavour

Contribution ID: **63**

Type: **not specified**

LFV experimental searches in ee

Thursday 19 January 2017 16:30 (25 minutes)

Presenter: DAM, Mogens (University of Copenhagen (DK))

Session Classification: Top and flavour

Contribution ID: 64

Type: **not specified**

$B \rightarrow X_s \tau^+ \tau^-$

Thursday 19 January 2017 16:55 (20 minutes)

Presenter: VALE SILVA, Luiz (Stefan Inst., Ljubljana)

Session Classification: Top and flavour

Contribution ID: 65

Type: **not specified**

Z- \rightarrow W*lnu decays

Thursday 19 January 2017 17:15 (20 minutes)

Presenter: DURIEUX, Gauthier (DESY)

Session Classification: Top and flavour

Contribution ID: **66**

Type: **not specified**

FCNC Higgs couplings

Presenter: KARTAL, Sehban (University of Istanbul Department of Physics)

Session Classification: Top and flavour

Contribution ID: 67

Type: **not specified**

Probing Top Quark FCNC at FCC-eh

Presenter: CAKIR, Orhan (Ankara University (TR))

Session Classification: Top and flavour

Contribution ID: **68**

Type: **not specified**

Neutralinos and 5plets

Friday 20 January 2017 09:00 (25 minutes)

Presenter: OSTDIEK, Bryan (University of Oregon)

Session Classification: DM searches

Contribution ID: **69**

Type: **not specified**

Sterile neutrinos

Friday 20 January 2017 09:25 (25 minutes)

Presenter: DREWES, Marco (Technische Universitaet Muenchen (DE))

Session Classification: DM searches

Contribution ID: 70

Type: **not specified**

DM probes with FCC-ee

Friday 20 January 2017 09:50 (25 minutes)

Presenter: LIU, Jia (Johannes Gutenberg University Mainz)

Session Classification: DM searches

Contribution ID: 71

Type: **not specified**

Disappearing tracks/mono-Z

Friday 20 January 2017 10:15 (25 minutes)

Presenter: ZURITA, José Francisco (Johannes Gutenberg Universität Mainz)

Session Classification: DM searches

Contribution ID: 72

Type: **not specified**

Dark sectors

Friday 20 January 2017 11:10 (25 minutes)

Presenter: SPANNOWSKY, Michael (IPPP Durham)

Session Classification: DM searches

Contribution ID: 73

Type: **not specified**

Direct vs. Mediator searches at 100 TeV)

Friday 20 January 2017 11:35 (25 minutes)

Presenter: RODRIGUEZ CHALA, Mikael (Valencia)

Session Classification: DM searches

Contribution ID: 74

Type: **not specified**

Experimental reach of Dark matter searches at 100 TeV

Friday 20 January 2017 12:00 (25 minutes)

Presenter: HARRIS, Philip Coleman (CERN)

Session Classification: DM searches

Contribution ID: 75

Type: **not specified**

BSM at FCC_ep: exotic leptons and neutrinos

Session Classification: BSM searches

Contribution ID: 76

Type: **not specified**

BSM

Wednesday 18 January 2017 15:15 (45 minutes)

Presenter: MCCULLOUGH, Matthew Philip (CERN)

Session Classification: FCC: discussion on ee, ep and pp complementarity

Contribution ID: 77

Type: **not specified**

Sterile neutrino searches at FCC-ep

Wednesday 18 January 2017 18:30 (20 minutes)

Presenter: FISCHER, Oliver (Unibas)

Session Classification: BSM searches: neutrinos and LLPs

Contribution ID: 78

Type: **not specified**

Higgs exotic decays at future e^+e^- lepton colliders

Wednesday 18 January 2017 11:45 (25 minutes)

Presenter: WANG, LianTao (University of Chicago)

Session Classification: BSM Higgs and EW baryogenesis

Contribution ID: 79

Type: **not specified**

Introduction on status of EW precision theory calculations

Tuesday 17 January 2017 09:00 (15 minutes)

Presenter: HEINEMEYER, Sven (CSIC (Madrid, ES))

Session Classification: EW probes