

15th International Workshop on Top-Quark Physics (TOP2022)



Report of Contributions

Contribution ID: 1

Type: **not specified**

Introduction by Local Organising Committee

Monday, September 5, 2022 9:30 AM (5 minutes)

Presenter: Prof. PECJAK, Benjamin (IPPP Durham)

Session Classification: Introduction and Keynote

Contribution ID: 2

Type: **not specified**

Welcome by International Advisory Committee

Monday, September 5, 2022 9:35 AM (5 minutes)

Presenter: Prof. SCHWIENHORST, Reinhard (Michigan State University)

Session Classification: Introduction and Keynote

Contribution ID: 3

Type: **not specified**

Keynote

Monday, September 5, 2022 9:40 AM (40 minutes)

Presenter: Prof. ENGLERT, Christoph (University of Glasgow)

Session Classification: Introduction and Keynote

Contribution ID: 4

Type: **not specified**

Inclusive and differential $t\bar{t}$ cross sections

Monday, September 5, 2022 11:00 AM (20 minutes)

Presenter: Prof. HANSEN, Peter (University of Copenhagen)

Session Classification: Top quark cross section measurements

Contribution ID: 5

Type: **not specified**

Precision comparisons between theory and data in $t\bar{t}$ production at the LHC

Monday, September 5, 2022 11:30 AM (20 minutes)

Presenter: PONCELET, Rene (Cavendish Laboratory Cambridge)

Session Classification: Top quark cross section measurements

Contribution ID: 6

Type: **not specified**

Inclusive and differential single top cross sections

Monday, September 5, 2022 12:00 PM (20 minutes)

Presenter: SOTO RODRIGUEZ, Alejandro (University of Oviedo (ICTEA))

Session Classification: Top quark cross section measurements

Contribution ID: 7

Type: **not specified**

Modeling uncertainties of ttW multilepton signatures

Monday, September 5, 2022 2:00 PM (20 minutes)

Presenter: KRAUS, Manfred (Florida State University)

Session Classification: Associated Production

Contribution ID: 8

Type: **not specified**

Measurements of associated t+X

Monday, September 5, 2022 2:30 PM (20 minutes)

Presenter: Mr LAMBERT, Joseph (University of Oklahoma)

Session Classification: Associated Production

Contribution ID: 9

Type: **not specified**

Absolute-mass threshold resummation for the production of four top quarks

Monday, September 5, 2022 3:00 PM (20 minutes)

Presenter: Dr VAN BEEKVELD, Melissa (University of Oxford)

Session Classification: Associated Production

Contribution ID: **10**

Type: **not specified**

Cross-section based top quark mass

Monday, September 5, 2022 4:30 PM (20 minutes)

Presenter: DEFRANCHIS, Matteo

Session Classification: Top quark mass

Contribution ID: 11

Type: **not specified**

Top-pair events with B-hadrons at the LHC

Monday, September 5, 2022 5:00 PM (20 minutes)

Presenter: GENERET, Terry (RWTH Aachen University)

Session Classification: Top quark mass

Contribution ID: 12

Type: **not specified**

Direct measurements of the top-quark mass at the LHC

Monday, September 5, 2022 5:30 PM (20 minutes)

Presenter: Dr VANADIA, Marco (INFN Roma Tor Vergata)

Session Classification: Top quark mass

Contribution ID: 13

Type: **not specified**

Studies of top quark spin and polarization in ATLAS

Tuesday, September 6, 2022 9:00 AM (20 minutes)

Presenter: WATSON, Miriam (University of Birmingham (GB))

Session Classification: Top spin and polarisation

Contribution ID: 14

Type: **not specified**

Understanding template methods for top polarisation measurements

Tuesday, September 6, 2022 9:30 AM (20 minutes)

Presenter: AGUILAR-SAAVEDRA, Juan Antonio (IFT UAM-CSIC)

Session Classification: Top spin and polarisation

Contribution ID: 15

Type: **not specified**

Studies of top quark spin and polarization in CMS

Tuesday, September 6, 2022 10:00 AM (20 minutes)

Presenter: Mr IEMMI, Fabio (IHEP (CAS) Beijing)

Session Classification: Top spin and polarisation

Contribution ID: 16

Type: **not specified**

Studies of top quark properties in ATLAS

Tuesday, September 6, 2022 11:00 AM (20 minutes)

Presenter: DADO, Tomas (TU Dortmund)

Session Classification: Top quark properties other than mass

Contribution ID: **18**

Type: **not specified**

Studies of top quark properties in CMS

Tuesday, September 6, 2022 12:00 PM (20 minutes)

Presenter: Dr SCHWARZ, Dennis (Austrian Academy of Sciences)

Session Classification: Top quark properties other than mass

Contribution ID: 19

Type: **not specified**

CP structure of the top-quark Yukawa interaction: NLO QCD corrections and off-shell effects

Tuesday, September 6, 2022 2:30 PM (20 minutes)

Presenter: HERMANN, Jonathan (RWTH Aachen University)

Session Classification: Top EFT interpretations

Contribution ID: **20**

Type: **not specified**

Top EFT fits

Tuesday, September 6, 2022 2:00 PM (20 minutes)

Presenter: WILSON, Jonathan (Baylor University)

Session Classification: Top EFT interpretations

Contribution ID: 21

Type: **not specified**

Top, Higgs, Diboson and Electroweak Fit to the Standard Model Effective Field Theory

Tuesday, September 6, 2022 3:00 PM (20 minutes)

Presenter: MADIGAN, Maeve (University of Cambridge)

Session Classification: Top EFT interpretations

Contribution ID: 22

Type: **not specified**

Global EFT analyses in ATLAS and CMS

Tuesday, September 6, 2022 3:30 PM (20 minutes)

Presenter: MCFAYDEN, Josh (University of Sussex)

Session Classification: Top EFT interpretations

Contribution ID: 23

Type: **not specified**

Searches for rare top quark decay and BSM top interactions in ATLAS

Wednesday, September 7, 2022 9:30 AM (20 minutes)

Presenter: Prof. CERRITO, Lucio (University of Rome Tor Vergata)

Session Classification: Searches for FCNC interactions of the top quark

Contribution ID: 24

Type: **not specified**

Searching for anomalous top quark interactions with proton tagging and timing detectors at the LHC

Wednesday, September 7, 2022 9:00 AM (20 minutes)

Presenter: PITT, Michael (CERN)

Session Classification: Searches for FCNC interactions of the top quark

Contribution ID: 25

Type: **not specified**

Searches for rare top quark decay and BSM top interactions in CMS

Wednesday, September 7, 2022 10:00 AM (20 minutes)

Presenter: Mr PARK, Jiwon (Hanyang University)

Session Classification: Searches for FCNC interactions of the top quark

Contribution ID: 26

Type: **not specified**

Searches for new physics with top quark final states in ATLAS

Wednesday, September 7, 2022 11:00 AM (20 minutes)

Presenter: SCHEIRICH, Daniel (Charles University)

Session Classification: Searches for new physics with top quark final states

Contribution ID: 27

Type: **not specified**

Gegenbauer Goldstones

Wednesday, September 7, 2022 11:30 AM (20 minutes)

Presenter: Dr SALVIONI, Ennio (Padova University)

Session Classification: Searches for new physics with top quark final states

Contribution ID: 28

Type: **not specified**

Searches for new physics with top quark final states in CMS

Wednesday, September 7, 2022 12:00 PM (20 minutes)

Presenter: Dr KOGLER, Roman (DESY)

Session Classification: Searches for new physics with top quark final states

Contribution ID: **30**

Type: **not specified**

CMS joker talk 1

Thursday, September 8, 2022 2:00 PM (20 minutes)

Presenter: RIBEIRO LOPES, Beatriz

Session Classification: Monte Carlo / Joker Talks

Contribution ID: **31**

Type: **not specified**

ATLAS joker talk 1

Thursday, September 8, 2022 2:30 PM (20 minutes)

Presenter: Dr KEAVENEY, James (University of Cape Town)

Session Classification: Monte Carlo / Joker Talks

Contribution ID: 32

Type: **not specified**

CMS joker talk 2

Thursday, September 8, 2022 3:00 PM (20 minutes)

Presenter: Dr MANGANELLI, Nicholas (University of California Riverside (US))

Session Classification: Monte Carlo / Joker Talks

Contribution ID: 33

Type: **not specified**

Outlook/first results for LHC Run-3 in ATLAS

Thursday, September 8, 2022 4:30 PM (20 minutes)

Presenter: Dr RAVINA, Baptiste (Georg-August-Universität Göttingen)

Session Classification: Outlook to run 3

Contribution ID: 34

Type: **not specified**

Prospects for the measurement of top-quark couplings

Thursday, September 8, 2022 5:00 PM (20 minutes)

Presenter: VRYONIDOU, Eleni (University of Manchester)

Session Classification: Outlook to run 3

Contribution ID: 35

Type: **not specified**

Outlook/first results for LHC Run-3 in CMS

Thursday, September 8, 2022 5:30 PM (20 minutes)

Presenter: Dr RANKEN, Evan Altair (DESY)

Session Classification: Outlook to run 3

Contribution ID: 36

Type: **not specified**

Machine learning

Friday, September 9, 2022 9:00 AM (20 minutes)

Presenter: Mr KEICHER, Philip

Session Classification: Entanglement and machine learning

Contribution ID: 37

Type: **not specified**

Quantum SMEFT tomography: top quark pair production at the LHC

Friday, September 9, 2022 9:30 AM (20 minutes)

Presenter: Dr MANTANI, Luca (University of Cambridge)

Session Classification: Entanglement and machine learning

Contribution ID: **38**

Type: **not specified**

ATLAS joker talk 2

Friday, September 9, 2022 10:00 AM (20 minutes)

Presenter: Dr KEMPSTER, Jacob (University of Birmingham)

Session Classification: Entanglement and machine learning

Contribution ID: 39

Type: **not specified**

Experimental Summary

Friday, September 9, 2022 11:00 AM (30 minutes)

Presenter: Dr SHABALINA, Lisa (Universität Goettingen)

Session Classification: Summary talks

Contribution ID: 40

Type: **not specified**

Theory Summary

Friday, September 9, 2022 11:45 AM (30 minutes)

Presenter: FORTE, Stefano (Milan University)

Session Classification: Summary talks

Contribution ID: 41

Type: **not specified**

Measurements of associated tt+X

Monday, September 5, 2022 3:30 PM (20 minutes)

Presenter: VAN DER LINDEN, Jan (KIT)

Session Classification: Associated Production

Contribution ID: 42

Type: **not specified**

CP violation for the heavens and the earth

Thursday, September 8, 2022 9:00 AM (20 minutes)

Presenter: Prof. HOU, George (National Taiwan University)

Session Classification: Top and flavour physics in the collider era (theory mini-workshop)

Contribution ID: 43

Type: **not specified**

CP of the top quark Yukawa

Thursday, September 8, 2022 9:30 AM (20 minutes)

Presenter: SMOLKOVIC, Aleks (Bern University)

Session Classification: Top and flavour physics in the collider era (theory mini-workshop)

Contribution ID: 44

Type: **not specified**

The flavour of UV physics

Thursday, September 8, 2022 10:00 AM (20 minutes)

Presenter: Dr VAN DYK, Danny (IPPP Durham)

Session Classification: Top and flavour physics in the collider era (theory mini-workshop)

Contribution ID: 45

Type: **not specified**

Top FCNC interactions

Thursday, September 8, 2022 11:00 AM (20 minutes)

Presenter: Dr NEBOT GOMEZ, Miguel (U. of Valencia - IFIC)

Session Classification: Top and flavour physics in the collider era (theory mini-workshop)

Contribution ID: 46

Type: **not specified**

Composite unification and top physics

Thursday, September 8, 2022 11:30 AM (20 minutes)

Presenter: Prof. JAEGER, Sebastian (Sussex U)

Session Classification: Top and flavour physics in the collider era (theory mini-workshop)

Contribution ID: 47

Type: **not specified**

Attention-based machine learning solution to the set-assignment problem of event reconstruction at the LHC

Tuesday, September 6, 2022 4:40 PM (7 minutes)

Presenter: Dr FENTON, Michael (UC Irvine)

Session Classification: Young Scientist Forum

Contribution ID: 48

Type: **not specified**

Synergies of Drell-Yan, top and beauty in global SMEFT fits

Tuesday, September 6, 2022 4:50 PM (7 minutes)

Presenter: Ms NOLLEN, Lara (TU Dortmund)

Session Classification: Young Scientist Forum

Contribution ID: 49

Type: **not specified**

Complete SMEFT predictions for four top quark production at LHC and FCC-hh

Tuesday, September 6, 2022 5:00 PM (7 minutes)

Presenter: HESHAM, El Faham (Universite Catholique de Louvain and VUB)

Session Classification: Young Scientist Forum

Contribution ID: 50

Type: **not specified**

Measurements of observables sensitive to colour reconnection in ATLAS

Tuesday, September 6, 2022 5:10 PM (7 minutes)

Presenter: Ms WAHDAN, Shayma (University of Wuppertal)

Session Classification: Young Scientist Forum

Contribution ID: 51

Type: **not specified**

Measurement of the top quark pole mass using $t\bar{t}$ +jet events in the dilepton final state at CMS

Tuesday, September 6, 2022 5:20 PM (7 minutes)

Presenter: Mr WUCHTERL , Sebastian (DESY)

Session Classification: Young Scientist Forum

Contribution ID: 53

Type: **not specified**

Measurement of the cross section of top quark-antiquark pair production in association with a W boson in CMS

Tuesday, September 6, 2022 5:30 PM (7 minutes)

Presenter: Mr TRAN, Tu Thong (Universite Catholique de Louvain)

Session Classification: Young Scientist Forum

Contribution ID: 54

Type: **not specified**

Search for the leptonic charge asymmetry of top-quark–antiquark pair production in association with a W boson with ATLAS

Tuesday, September 6, 2022 4:30 PM (7 minutes)

Presenter: Mr LOPEZ, Marcos (IFIC (CSIC-UV))

Session Classification: Young Scientist Forum

Contribution ID: 55

Type: **not specified**

Measurement of differential cross sections for the production of top quark pairs and of additional jets in CMS

Tuesday, September 6, 2022 5:40 PM (7 minutes)

Presenter: Dr PETERSEN , Henriette (DESY)

Session Classification: Young Scientist Forum

Contribution ID: 56

Type: **not specified**

Full off-shell computation of pp->t tbar Z +X at NLO QCD

Monday, September 5, 2022 8:00 PM (3 minutes)

Presenter: Ms NASUFI , Jasmina (RWTH-Aachen)

Session Classification: Poster Session

Contribution ID: 57

Type: **not specified**

First measurement of the top-quark pair production cross-section in pp collisions at centre-of-mass energy of 13.6 TeV with the ATLAS experiment at the LHC

Monday, September 5, 2022 8:03 PM (3 minutes)

Presenter: Mr GUERRIERI, Giovanni (Universita degli Studi di Udine (IT))

Session Classification: Poster Session

Contribution ID: 58

Type: **not specified**

Measurement of the top-quark mass in the $t\bar{t}$ dilepton channel with a template method, using the full Run 2 data set in ATLAS

Monday, September 5, 2022 8:06 PM (3 minutes)

Presenter: Mr RAFANOHARANA, Dimbiniaina (Albert Ludwigs Universitaet Freiburg (DE))

Session Classification: Poster Session

Contribution ID: 59

Type: **not specified**

Differential cross-section measurements for high momentum top, anti-top production in association with additional jets using the ATLAS detector and comparison to Monte-Carlo predictions

Monday, September 5, 2022 8:09 PM (3 minutes)

Presenter: Dr JAMIESON, Jonathan (University of Glasgow)

Session Classification: Poster Session

Contribution ID: **60**

Type: **not specified**

Measurement of top quark pair charge asymmetry in $t\bar{t}\gamma$ production with ATLAS experiment

Monday, September 5, 2022 8:12 PM (3 minutes)

Presenter: Mr REJ, Amartya (University of Siegen)

Session Classification: Poster Session

Contribution ID: **61**

Type: **not specified**

Probing top-quark pair production at 13.6 TeV

Monday, September 5, 2022 8:15 PM (3 minutes)

Presenter: Mr JEPPE , Laurids (DESY)

Session Classification: Poster Session

Contribution ID: 62

Type: **not specified**

**Measurement of the cross section of top
quark-antiquark pair production in association with
a W boson in proton-proton collision at $\sqrt{s} = 13$
TeV**

Monday, September 5, 2022 8:18 PM (3 minutes)

Presenter: Mr TRAN, Tu Thong (Universite Catholique de Louvain)

Session Classification: Poster Session

Contribution ID: 63

Type: **not specified**

Measurement of the jet mass and top quark mass in hadronic decays of boosted top quarks with CMS

Monday, September 5, 2022 8:21 PM (3 minutes)

Presenters: Mr SCHWARZ, Dennis (Austrian Academy of Sciences); Dr KOGLER, Roman (DESY)

Session Classification: Poster Session

Contribution ID: 64

Type: **not specified**

Measurement of differential cross sections for the production of top quark pairs and of additional jets in pp collisions at $\sqrt{s} = 13$ TeV

Monday, September 5, 2022 8:24 PM (3 minutes)

Presenter: Dr PETERSEN, Henriette (DESY)

Session Classification: Poster Session

Contribution ID: 65

Type: **not specified**

Standard model four-top quark production in the all-hadronic final state in proton-proton collisions at 13 TeV with the CMS experiment

Monday, September 5, 2022 8:27 PM (3 minutes)

Presenter: Dr QUINNAN , Melissa (UC San Diego)

Session Classification: Poster Session

Contribution ID: 67

Type: **not specified**

Monte Carlo generators for top quark production at the LHC

Tuesday, September 6, 2022 11:30 AM (20 minutes)

Presenter: Dr VILLAPLANA, Miguel (IFIC (University of Valencia and CSIC))

Session Classification: Top quark properties other than mass

Contribution ID: **68**

Type: **not specified**

NLO QCD corrections to production of $t\bar{t}Z$ including leptonic decays - off-shell & PS effects

Thursday, September 8, 2022 3:30 PM (20 minutes)

Presenter: Prof. REINA, Laura (Florida State University)

Session Classification: Monte Carlo / Joker Talks

Contribution ID: 70

Type: **not specified**

YSF make-up talk: Charge asymmetry in top-pair production with the ATLAS detector

Thursday, September 8, 2022 12:00 PM (7 minutes)

Presenter: ECKEROVA, Barbora (Comenius University Bratislava)

Session Classification: Top and flavour physics in the collider era (theory mini-workshop)

Contribution ID: 71

Type: **not specified**

Announcement of TOP2023

Friday, September 9, 2022 12:30 PM (10 minutes)

Presenter: HEAD OF LOC FOR TOP2023

Session Classification: Summary talks