

# **Muon Collider Physics and Detector Workshop**



## **Report of Contributions**

Contribution ID: 9

Type: **not specified**

# Welcome

*Wednesday, 2 June 2021 14:00 (5 minutes)*

**Presenters:** WULZER, Andrea (CERN and EPFL); LUCCHESI, Donatella (Universita e INFN, Padova (IT))

Contribution ID: **10**

Type: **not specified**

## Overall status

*Wednesday, 2 June 2021 14:05 (20 minutes)*

**Presenter:** SCHULTE, Daniel (CERN)

Contribution ID: 11

Type: **not specified**

## Physics potential overview

*Wednesday, 2 June 2021 14:35 (30 minutes)*

**Presenter:** BUTTAZZO, Dario (Universita & INFN Pisa (IT))

**Session Classification:** Physics Potential

Contribution ID: 12

Type: **not specified**

## **BSM questions for future colliders**

*Wednesday, 2 June 2021 15:15 (30 minutes)*

**Presenter:** SUNDRUM, Raman

**Session Classification:** Physics Potential

Contribution ID: 13

Type: **not specified**

## **Novel reconstruction techniques at current and future (muon) collider**

*Thursday, 3 June 2021 15:40 (20 minutes)*

**Presenter:** HARRIS, Philip Coleman (Massachusetts Inst. of Technology (US))

**Session Classification:** Physics Potential

Contribution ID: 14

Type: **not specified**

## Trackers overview

*Wednesday, 2 June 2021 17:10 (25 minutes)*

**Presenter:** APRESYAN, Artur (Fermi National Accelerator Lab. (US))

**Session Classification:** Detector Design

Contribution ID: 15

Type: **not specified**

## Calorimeters overview

*Wednesday, 2 June 2021 17:45 (25 minutes)*

**Presenter:** POESCHL, Roman (Université Paris-Saclay (FR))

**Session Classification:** Detector Design



Contribution ID: 16

Type: **not specified**

## Panel discussion

*Wednesday, 2 June 2021 18:20 (40 minutes)*

**Presenters:** APRESYAN, Artur (Fermi National Accelerator Lab. (US)); TULLY, Chris (Princeton University (US)); ABBANEO, Duccio (CERN); AUFFRAY HILLEMANNNS, Etienne (CERN); POESCHL, Roman (Université Paris-Saclay (FR)); LIPTON, Ronald (Fermi National Accelerator Lab. (US))

**Session Classification:** Detector Design

Contribution ID: 17

Type: **not specified**

## Large logs in EW computations

*Thursday, 3 June 2021 14:00 (20 minutes)*

**Presenter:** NAPOLETANO, Davide (Universita & INFN, Milano-Bicocca (IT))

**Session Classification:** Physics Potential

Contribution ID: **18**

Type: **not specified**

## **Long lived and feebly interacting particles**

*Thursday, 3 June 2021 14:25 (20 minutes)*

**Presenter:** ZURITA, José Francisco (IFIC - Univ. of Valencia and CSIC (ES))

**Session Classification:** Physics Potential

Contribution ID: **19**

Type: **not specified**

## Dark Matter

*Thursday, 3 June 2021 14:50 (20 minutes)*

**Presenter:** WANG, Liantao (University of Chicago (US))

**Session Classification:** Physics Potential

Contribution ID: 20

Type: **not specified**

## **Towards a physics-driven assessment of requested detector performances at the muon collider**

*Wednesday, 2 June 2021 16:35 (25 minutes)*

**Presenter:** SELVAGGI, Michele (CERN)

**Session Classification:** Detector Design

Contribution ID: 21

Type: **not specified**

## Muon detector (gas)

*Thursday, 3 June 2021 16:30 (15 minutes)*

**Presenter:** WILLIAMS, Crispin (Universita e INFN, Bologna (IT))

**Session Classification:** Detector Design

Contribution ID: 22

Type: **not specified**

## **Muon detector (micro-pattern)**

*Thursday, 3 June 2021 16:50 (15 minutes)*

**Presenter:** BIANCO, Michele (CERN)

**Session Classification:** Detector Design

Contribution ID: 23

Type: **not specified**

## Trigger/DAQ general

*Thursday, 3 June 2021 17:10 (25 minutes)*

**Presenter:** DASU, Sridhara (University of Wisconsin Madison (US))

**Session Classification:** Detector Design



Contribution ID: 24

Type: **not specified**

## Experience with triggerless detectors

*Thursday, 3 June 2021 17:45 (25 minutes)*

**Presenter:** NEUFELD, Niko (CERN)

**Session Classification:** Detector Design

Contribution ID: 25

Type: **not specified**

## Panel discussion

*Thursday, 3 June 2021 18:20 (40 minutes)*

**Presenters:** MANDELLI, Beatrice (CERN); WILLIAMS, Crispin (Universita e INFN, Bologna (IT)); ACOSTA, Darin (University of Florida (US)); OLIVERI, Eraldo (CERN); OJALVO, Isobel (Princeton University (US)); BIANCO, Michele (CERN); NEUFELD, Niko (CERN); GUIDA, Roberto (CERN); DEMERS KONEZNY, Sarah Marie (Yale University (US)); DASU, Sridhara (University of Wisconsin Madison (US))

**Session Classification:** Detector Design

Contribution ID: 26

Type: **not specified**

## Higgs physics at the muon collider

*Thursday, 3 June 2021 15:15 (20 minutes)*

**Presenter:** MEADE, Patrick (Stony Brook University)

**Session Classification:** Physics Potential

Contribution ID: 27

Type: **not specified**

## Early Universe implications of double Higgs at the muon collider

*Friday, 4 June 2021 14:00 (20 minutes)*

**Presenter:** RAMSEY-MUSOLF, Michael (Shanghai Jiao Tong University)

**Session Classification:** Physics Potential

Contribution ID: 28

Type: **not specified**

## **Multi-jet final states (4/6 jets)**

*Friday, 4 June 2021 14:25 (20 minutes)*

**Presenter:** CHIESA, Mauro (University of Pavia)

**Session Classification:** Physics Potential

Contribution ID: 29

Type: **not specified**

## EW resummation

*Friday, 4 June 2021 15:40 (20 minutes)*

**Presenter:** BAUER, Christian Walter (Lawrence Berkeley National Lab. (US))

**Session Classification:** Physics Potential

Contribution ID: 30

Type: **not specified**

## Quark and gluon contents of a lepton at high energies

*Friday, 4 June 2021 14:50 (20 minutes)*

**Presenter:** KEPING, Xie (Pitt)

**Session Classification:** Physics Potential

Contribution ID: 31

Type: **not specified**

## **QCD-precision measurements using novel reconstruction techniques**

*Friday, 4 June 2021 15:15 (20 minutes)*

**Presenter:** BANFI, Andrea (University of Sussex)

**Session Classification:** Physics Potential



Contribution ID: 32

Type: **not specified**

## Flavour anomalies and muon colliders

*Friday, 4 June 2021 16:45 (20 minutes)*

**Presenter:** ALTMANNSHOFER, Wolfgang (UC Santa Cruz)

**Session Classification:** Synergies

Contribution ID: 33

Type: **not specified**

## What to do with high energy neutrinos?

*Friday, 4 June 2021 17:10 (20 minutes)*

**Presenter:** DE GOUVEA, Andre (Northwestern University)

**Session Classification:** Synergies

Contribution ID: 34

Type: **not specified**

# The Physics of ENUBET and Synergies with nuSTORM

*Friday, 4 June 2021 17:35 (20 minutes)*

**Presenter:** LONGHIN, Andrea (Universita e INFN, Padova (IT))

**Session Classification:** Synergies

Contribution ID: 35

Type: **not specified**

## Wrap-up

*Friday, 4 June 2021 18:10 (30 minutes)*