

Session Program

July 29, 2019 to August 2, 2019



**2019 Meeting of the Division of Particles &
Fields of the American Physical Society**

Beyond Standard Model

Northeastern University
Northeastern University, Boston MA Physics Department, 110 Forsyth St., Boston MA 02115 US

Sun, July 28

2:00 PM

Beyond Standard Model

Session | **Location:** Northeastern University, Shillman 335 | **Conveners:**
Lawrence Lee Jr, Christopher Rogan, stefania gori, Verena Ingrid Martinez Outschoorn

14:00 - 14:15

Search for neutral long-lived particles decaying into displaced jets in the ATLAS calorimeter

Speaker

Mason Proffitt

14:15 - 14:30

Searches for new physics using long-lived particles and non-conventional signatures with the CMS detector

Speaker

Todd Adams

14:30 - 14:45

Search for Long-lived Particles in the ATLAS Muon Spectrometer

Speaker

Hao Zhou

14:45 - 15:02

Identifying the Quantum Color Representation of New Particles with Machine Learning

Speaker

John Alexander Kruper

15:02 - 15:17

Detecting hidden sector dark matter at HL-LHC and HE-LHC via long-lived stau decays

Speaker

Amin Aboubrahim

15:17 - 15:32

Mass Determination of Long-Lived and Invisible Particles with Precision Timing Detectors at the HL-LHC.

Speaker

Zachary Flowers

3:32 PM

4:00 PM

Beyond Standard Model

Session | **Location:** Northeastern University, Shillman 335 | **Conveners:**
stefania gori, Lawrence Lee Jr, Christopher Rogan, Verena Ingrid Martinez Outschoorn

16:00 - 16:17

A Search for Fully Hadronic Final State Vector-Like Quark Pair Production in 13 TeV pp Collisions using CMS Data

Speaker

Rikab Gambhir

16:17 - 16:34

Search for Supersymmetry at CMS in Events with Large Jet Multiplicity and Low Missing Transverse Momentum at $\sqrt{s}=13$ TeV**Speaker**

Christopher Madrid

16:34 - 16:51

Search for low-mass resonances decaying into two jets and produced in association with a photon using pp collisions at $\sqrt{s}=13$ TeV with the ATLAS detector**Speaker**

Gang Zhang

16:51 - 17:08

Searching for resonant HH production in the $b\bar{b}q\ell\nu$ final state at CMS**Speaker**

Nickolas Mc Coll

17:08 - 17:26

High-energy hadronic processes in the presence of Lorentz violation**Speaker**

Mr nathan sherrill

6:00 PM

Mon, July 29

2:00 PM

Beyond Standard Model

Session | **Location:** Northeastern University, Shillman 335 | **Conveners:**
stefania gori, Verena Ingrid Martinez Outschoorn, Lawrence Lee Jr, Christopher Rogan

14:00 - 14:18

Revisiting the Dark Photon Interpretation of the Muon Anomalous Magnetic Moment

Speaker

Gopolang Mohlabeng

14:18 - 14:36

Magnetic Field Measurement and Analysis for the Muon g-2 Experiment

Speaker

Dr Ran Hong

14:36 - 14:54

Mixed hidden sector/visible sector dark matter and observation of CP odd Higgs at HL-LHC and HE-LHC

Speaker

Amin Aboubrahim

14:54 - 15:12

Exploration of the dark sector with the Fermilab dimuon experiment

Speaker

Vassili Papavassiliou

15:12 - 15:30

A Portalino to Twin Sector— Cosmology and Flavor Physics

Speaker

Di Liu

3:30 PM

4:00 PM

Beyond Standard Model

Session | **Location:** Northeastern University, Shillman 335 | **Conveners:**
Stefania Gori, Lawrence Lee Jr, Verena Ingrid Martinez Outschoorn, Christopher Rogan

16:00 - 16:17

Search for top squark production with CMS detector at 13 TeV

Speaker

Matthew Kilpatrick

16:17 - 16:34

Search for direct stop pair production with the ATLAS detector

Speaker

Keisuke Yoshihara

16:34 - 16:51

Phenomenology of TeV-scale scalar Leptoquarks in the EFT

Speaker

jonathan cohen

16:51 - 17:08

Status of leptoquark searches at CMS

Speaker
Dr David Morse

17:08 - 17:25 **Search for vector like quarks with ATLAS**

Speaker
Joseph Haley

17:25 - 17:42

A Search for Di-Leptonic Final State Vector-Like Quark Pair Production in 13 TeV pp Collisions using CMS Data

Speaker
Pamela Pajarillo

17:42 - 18:00 **The Four-Fermi Interaction in the Standard Model Effective Theory**

Speaker
Dr Daniel Wiegand

6:00 PM

Tue, July 30

2:00 PM

Beyond Standard Model: BSM & DM Joint Session: Dark Matter at Accelerators

Session | **Location:** Northeastern University, Shillman 335 | **Conveners:** Lawrence Lee Jr, Christopher Rogan, Stefania Gori, Benjamin Safdi, Lindley Winslow, Verena Ingrid Martinez Outschoorn, Rupak Mahapatra

14:00 - 14:18 **Searches for invisible Higgs decays with the ATLAS detector**

Speaker
Othmane Rifki

14:18 - 14:36

Broadening Dark Matter Searches at the LHC: Mono-X versus Darkonium Channels

Speaker
Anirudh Krovi

14:36 - 14:54

Trigger-level searches for dark matter mediators with dijet final states using the ATLAS detector at the LHC

Speaker
Emma Elizabeth Tolley

14:54 - 15:12

Virtual Higgs portal to new particles in a natural scenario with supersymmetry and non-supersymmetric WIMPs

Speaker
Prof. Roland Allen

15:12 - 15:30 **Dark Matter searches with the ATLAS Detector**

Speaker
Rachel Christine Rosten

3:30 PM

4:00 PM

Beyond Standard Model

Session | **Location:** Northeastern University, Shillman 335 | **Conveners:** Stefania Gori, Lawrence Lee Jr, Verena Ingrid Martinez Outschoorn, Christopher Rogan

16:00 - 16:17 **Recent Results and Future Plans of the MoEDAL Experiment**

Speaker
Michael Staelens

16:17 - 16:34 **Status of the milliQan Experiment**

Speaker
Brian Francis

16:34 - 16:51 **Looking forward to New Physics: the FASER Experiment**

Speaker
Felix Kling

16:51 - 17:08 **SEARCH FOR EXOTIC DECAYS WITH NA62**

Speaker
Roberta Volpe

17:08 - 17:25

Search for displaced vertices of oppositely-charged leptons from decays of long-lived particles in pp collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector

Speaker
Prof. K.K. Gan

17:25 - 17:42

Searching for Lorentz violation in high-energy colliders

Speaker
Zonghao Li

6:00 PM

Wed, July 31

2:00 PM

Beyond Standard Model

Session | **Location:** Northeastern University, Shillman 335 | **Conveners:**
Stefania Gori, Lawrence Lee Jr, Christopher Rogan, Verena Ingrid Martinez Outschoorn

14:00 - 14:18

Search for electroweak gauginos in the compressed mass spectra with the ATLAS detector

Speaker

Shion Chen

14:18 - 14:36

Search for chargino-neutralino production using an emulated recursive jigsaw reconstruction technique in three-lepton final states with the ATLAS detector

Speaker

Elodie Deborah Resseguie

14:36 - 14:54

Combined collider constraints on neutralinos and charginos with GAMBIT

Speaker

Dr Jonathan Cornell

14:54 - 15:12

Search for supersymmetry in events with tau leptons with the CMS experiment

Speaker

Valentina Dutta

15:12 - 15:30

Search for chargino pair-production and chargino-neutralino production with R -Parity Violating decays in pp collisions at $\sqrt{s} = 13$ TeV with ATLAS

Speaker

Mr Lucas Macrorie Flores

3:30 PM

4:00 PM

Beyond Standard Model

Session | **Location:** Northeastern University, Shillman 335 | **Conveners:**
Christopher Rogan, Verena Ingrid Martinez Outschoorn, Lawrence Lee Jr, Stefania Gori

16:00 - 16:18

PHYSICS BEYOND SM WITH KAONS FROM NA62

Speaker

Roberta Volpe

16:18 - 16:36

Nonminimal CPT violation in neutral-meson oscillations

Speaker

Benjamin Edwards

16:36 - 16:54

Preliminary Charged Particle Results from the AICap Experiment

Speaker

John Quirk

16:54 - 17:12

The REDTOP experiment: Rare Eta Decays with a TPC for Optical Photons

Speakers

Prof. Corrado Gatto, The REDTOP Collaboration

17:12 - 17:30

The Mu3e experiment

Speaker

Angela Papa

17:30 - 17:48

Higgs bosons with large couplings to light quarks

Speaker

Daniel Egana-Ugrinovic

6:00 PM