

## **Session Program**

**Dec 15 - 16, 2020**



**YTF 20**

### ***Parallel Stream 1***

Centre for Particle Theory, Durham, Teams  
IPPP & Dept. Mathematical Sciences Durham University South Road Durham DH1 3LE

# Tue, December 15

2:00 PM

## Parallel Stream 1: Dark Matter

**Session** |**Location:** Centre for Particle Theory, Durham, Teams, IPPP & Dept. Mathematical Sciences Durham University South Road Durham DH1 3LE |**Convener:** Elliott Reid

14:00 - 14:30

### Machine Learning Surrogates for Rapid Dark Matter Direct Detection Calculations

**Speaker**

Dorian Amaral

3:00 PM

3:30 PM

## Parallel Stream 1: QCD

**Session** |**Location:** Centre for Particle Theory, Durham, Teams, IPPP & Dept. Mathematical Sciences Durham University South Road Durham DH1 3LE |**Convener:** Jack Shergold

15:30 - 16:00

### QCD Instantons at hadron colliders

**Speaker**

Daniel Milne

16:00 - 16:30

### Soft Anomalous Dimension in QCD

**Speaker**

Niamh Maher

4:30 PM

## Wed, December 16

10:00 AM

### Parallel Stream 1: Jets

**Session** |

**Location:** Centre for Particle Theory, Durham, Teams, IPPP & Dept. Mathematical Sciences Durham University South Road Durham DH1 3LE |

**Convener:** Oscar Braun-White

10:00 – 10:30

#### Towards a Quantum Computing Algorithm for Helicity Amplitudes and Parton Showers

**Speaker**

Khadeejah Bepari

10:30 – 11:00

#### The performance and IRC safety of Spectral Clustering when Jet tagging.

**Speaker**

Henry Day-Hall

11:00 – 11:30

#### An analytical look at top tagging with N-subjettiness

**Speaker**

Mr Jack Helliwell

11:30 AM

12:00 PM

### Parallel Stream 1: QCD

**Session** |

**Location:** Centre for Particle Theory, Durham, Teams, IPPP & Dept. Mathematical Sciences Durham University South Road Durham DH1 3LE |

**Convener:** Lucy Budge

12:00 – 12:30

#### Getting a number out of a QCD amplitude

**Speaker**

Ryan Moodie

12:30 – 13:00

#### Finite Fields for Di-Photon Amplitudes

**Speaker**

Francesco Sarandrea

1:00 PM

2:00 PM

### Parallel Stream 1: Lattice

**Session** |

**Location:** Centre for Particle Theory, Durham, Teams, IPPP & Dept. Mathematical Sciences Durham University South Road Durham DH1 3LE |

**Convener:** Jack Shergold

14:00 – 14:30

#### Precise Determination of CKM Matrix Elements with Lattice QCD+QED

**Speaker**

Andrew Yong

14:30 – 15:00

#### Heavy $b \rightarrow s$ strange Semileptonic Decays in Lattice QCD

**Speaker**

William Parrott

3:00 PM

3:30 PM

## Parallel Stream 1: Cosmo

**Session** |

**Location:** Centre for Particle Theory, Durham, Teams, IPPP & Dept. Mathematical Sciences Durham University South Road Durham DH1 3LE |

**Convener:** Jack Shergold

15:30 - 16:00

### **Cosmological implications of EW vacuum instability: constraints on the Higgs curvature coupling from inflation**

**Speaker**

Mr Andreas Mantziris

16:00 - 16:30

### **Charting the Fifth Force Landscape**

**Speaker**

Hannah Banks

4:30 PM