

Session Program

22-26 Jun 2026



PASCOS 2026

Cosmology

Richard Roberts Auditorium
13 Brook Hill, Sheffield S3 7HF

Monday 22 June

14:00

Cosmology

Session | **Location:** Richard Roberts Auditorium, 13 Brook Hill, Sheffield S3 7HF | **Convener:** Tamara Davis

14:00-14:35 Galaxy Evolution Meets Cosmological Inference

Speaker

Hiranya Peiris

14:35-15:10 Physical, Viable and Predictive Models of Dark Energy

Speaker

Tessa Baker

15:10-15:45 Dark energy and screening

Speaker

philippe brax

15:45

Tuesday 23 June

11:15

Cosmology

Session | **Location:** Richard Roberts Auditorium, 13 Brook Hill, Sheffield S3 7HF | **Convener:** Philippe Brax

11:15-11:50 **Large-scale structure, neutrino mass and Newtonian Motion gauge**

Speaker

Julien Lesgourgues

11:50-12:25

Mapping Cosmic Expansion with DESI: Precision BAO and the Road Ahead

Speaker

Florian Beutler

12:25

14:15

Cosmology: Inflation

Session | **Location:** Hicks Building, Lecture Theatre C | **Conveners:** Konstantinos Dimopoulos, Dr Laura Iacconi

14:15-14:35 **How Sensitive is Cosmic Inflation to Quantum Corrections?**

Speaker

Lucien Heurtier

14:35-14:55 **A universal scaling for induced gravitational waves during inflation**

Speaker

Martin Teuscher

14:55-15:15 **Post-Inflationary Higgs Dynamics from Spacetime Curvature**

Speaker

Dr JAVIER RUBIO

15:15-15:35 **Discovering New Particles with Cosmic Microwave Background**

Speaker

Anish Ghoshal

15:35-15:55 **Primordial Black Hole Formation from Inflationary Higgs Instability**

Speaker

Ethan Milligan

15:55-16:15 **Coffee Break**

16:15-16:35 **Observational prospects of axion inflation**

Speaker

Oksana Iarygina

16:35-16:55 **Primordial Power Spectrum from a deformed Bouncing background**

Speaker

Gabriele Barca

16:55-17:15

Optimized numerical evolution of perturbations across sharp background trajectory turns in multifield inflation

Speaker

Guillermo Fernando Quispe Peña

17:15-17:35

Large Primordial Fluctuations: Stochastic vs. Classical δN approaches

Speaker

Parth Bhargava

17:35

14:15

Cosmology: Joint MG&DE

Session | **Location:** Richard Roberts Auditorium, 13 Brook Hill, Sheffield S3 7HF | **Conveners:** Matteo Martinelli, Alessandra Silvestri, Supriya Pan, Laura Herold

14:15-14:35

Theoretical implications of DESI BAO: the case for Nonminimal Coupling

Speaker

Matteo Martinelli

14:35-14:55

A Lapse in the Cosmological Constant Problem

Speaker

Benjamin Muntz

14:55-15:15

Reconstructing Sign-Changing Dark Energy Density: From Data to Fundamental Theory

Speaker

Prof. Nihan Katirci

15:15-15:35

Asymptotically Cubic Galileon Gravity: Late-Time Departures for Viable Dark Energy

Speaker

James Hallam

15:35-16:00

Coffee Break

16:00-16:20

Modified gravity & friends vs current CMB data.

Speaker

Enrico Specogna

16:20-16:40

A Holographic Dark Energy Model in Light of Recent Data

Speaker

Patrick Adolf

16:40-17:00

Cosmological no-go theorem in bumblebee gravity

Speaker

Nils A. Nilsson

17:00-17:20

Precision gravitational wave theory at seventh post-Newtonian order

17:20

Speaker
Matteo Pegorin

Wednesday 24 June

09:00

Cosmology

Session | **Location:** Richard Roberts Auditorium, 13 Brook Hill, Sheffield S3 7HF | **Convener:** Anne Davis

09:00–09:35

The James Webb Space Telescope and the Distance Network: New Paths to Understanding the Hubble Tension

Speaker

Adam Riess

09:35–10:10

The H0 World Cup: Is It Coming H0me?

Speaker

Dr Vivian Poulin

10:10–10:45

Dark Energy: hints of time variation?

Speaker

Tamara Davis

10:45

Thursday 25 June

09:10

Cosmology: Neutrinos in Cosmology

Session | **Location:** Hicks Building, Lecture Theatre A | **Conveners:** Willem Elbers, Olga Mena

09:10–09:30 Probing neutrino dark matter interactions at neutrino detectors

Speaker

Salvador ROSAURO-ALCARAZ

09:30–09:50 Neutrino flavour conversion in the early universe

Speaker

Julien Froustey

09:50–10:10 Neutrino decays in light of the neutrino mass tension

Speaker

Dr Guillermo Franco Abellán

10:10–10:30

Limits on total lepton number and lepton flavour asymmetries from BBN and the CMB

Speaker

Mario Fernandez Navarro

10:30–10:50

Origin of cosmological neutrino mass bounds: background versus perturbations

Speaker

Rasmi Hajjar

10:50–11:10 Coffee Break

11:10–11:30 Low-Energy Neutrino Predictions from SO(10)-Inspired Leptogenesis

Speaker

Xubin Hu

11:30–11:50

Probing the neutrino chemical potential with cosmological observations

Speaker

Pietro Ghedini

11:50–12:10

Beyond thermal approximations: Precise cosmological bounds on Axion-Like Particles

Speaker

Nicola Barbieri

12:10–12:30

Listening for Right-Handed Neutrinos in Gravitational-Wave Backgrounds

Speaker

Angus Spalding

12:30

09:30

Cosmology: Cosmic Tensions

Session | Location: Hicks Building, Lecture Theatre C | Conveners: Elsa Teixeira, William Giarè

09:30–09:50

From Distance Ladder to Network: Methods, Code, and Results from H0DN

Speaker

Emre Ozulker

09:50–10:10

Dark Energy Survey Year 6: Cosmological Results and Lensing Ratios

Speaker

Gisela Cristina Camacho Ciurana

10:10–10:30

A frequentist view on cosmological neutrino and dark-energy constraints

Speaker

Laura Herold

10:30–10:50

How safe is supernovae data?

Speaker

Paul Shah

10:50–11:10

Coffee Break

11:10–11:30

Disentangling cosmic distance tensions with early and late dark energy

Speaker

Tanisha Jhaveri

11:30–11:50

Cosmic tensions and interacting dark energy: dynamics and observations

Speaker

Dr Trupti Patil

11:50–12:10

Axion-dilaton interactions in the dark sector

Speaker

Adam Smith

12:10–12:30

Towards Consistent Dark Energy Constraints from High- and Low-Redshift Probes with the Extended AP Test

Speaker

Suvedha Suresh Naik

12:30

09:30

Cosmology: Modified Gravity

Session | Location: Hicks Building, Lecture Theatre E | Conveners: Alessandra Silvestri, Matteo Martinelli

09:30–09:50

Gauge invariant perturbations of $F(T, T_G)$ Cosmology

Speaker

Prof. Bivudutta Mishra

09:50–10:10

General relativity as diffusive equilibrium of scalar-tensor gravity

Speaker

Sotirios Karamitsos

10:10-10:30

A Master Equation for Screening in Luminial Horndeski Gravity**Speaker**

Sergi Sirera

10:30-10:50

Alleviating Hubble tension with Torsion Condensation (TorC)**Speaker**

Sinah Legner

10:50-11:10

Coffee Break

11:10-11:30

Non-Gaussian statistics to break degeneracies in modified gravity**Speaker**

Alessandro Vadala

11:30-11:50

Model-independent tests of gravity with the Weyl potential evolution**Speaker**

Nastassia Grimm

11:50-12:10

Testing modified gravity with gravitational wave lensing**Speaker**

Dr Serena Giardino

12:10-12:30

Closing in on the EFTofDE with combined probes**Speaker**

Neel Shah

12:30

Friday 26 June

09:10

Cosmology: Dark Energy

Session | **Location:** Richard Roberts Auditorium, 13 Brook Hill, Sheffield S3 7HF | **Conveners:** Supriya Pan, Laura Herold

09:10–09:30 **Viable interactions in the dark sector**

Speaker
Erik Jensko

09:30–09:50

Momentum-transfer coupling between dark matter and early dark energy

Speaker
Elsa Teixeira

09:50–10:10

Reconstructing dark energy with few assumptions

Speaker
Daniel A. Kessler

10:10–10:30

Non-Linear Effects of the Interacting Dark Energy Model

Speaker
Yuejia Zhai

10:30–10:50

Early- and Late-Time Dark Energy Dynamics after DESI

Speaker
William Giarè

10:50–11:10

Coffee Break

11:10–11:30

Unveiling the Dark Universe with the Sun

Speaker
Anne Davis

11:30–11:50

Beyond LCDM: Dynamical Dark Energy and High-Redshift Reionization

Speaker
Hanyu Cheng

11:50–12:10

Cosmological signatures of a solidly unified dark sector

Speaker
María Pérez Garrote

12:10–12:30

A QCD vacuum motivated model of dynamical dark energy

Speaker
Dong Ha Lee

12:30

09:10

Cosmology: Dark Matter in cosmology

Session | Location: Hicks Building, Lecture Theatre C | Conveners: Laura Covi, Clare Burrage

09:10–09:30 **break**

09:30–09:50 **Constraining cosmology with the Lyman-alpha forest**

Speaker

Olga Garcia Gallego

09:50–10:10 **Relaxing Lyman- α bounds by self-cooling Dark Sectors**

Speaker

Stefan Lederer

10:10–10:30 **UV, IR, and inflaton driven Freeze-in**

Speaker

Dimitrios Karamitros

10:30–10:50 **Thermal effects on Dark Matter production during cosmic reheating**

Speaker

Yannis Georis

10:50–11:10 **Coffee Break**

11:10–11:30 **Flipped rotating axion: Baryogenesis and Dark Matter**

Speaker

Prof. Konstantinos Dimopoulos

11:30–11:50 **Screened Forces in a QCD-like Dark Sector on Galactic Scales**

Speaker

Mathilda Denison

11:50–12:10

Gravothermal evolution of dissipative self-interacting dark matter halos

Speaker

Ludwig Schmidt

12:10–12:30 **X-ray femtolensing probes asteroid-mass black holes**

Speaker

Benjamin Lehmann

12:30

16:20

Cosmology

Session | Location: Richard Roberts Auditorium, 13 Brook Hill, Sheffield S3 7HF | Convener: Willem Elbers

16:20–16:55 **Probing Small-Scale Cosmology with Dark Relics**

Speaker

Dr Djuna Croon

16:55–17:30

Taylor expansion methods for loops during inflation and the decoupling of scales

Speaker

David Mulryne

17:30