

Session Program

27-30 Apr 2026



Progress on Old and New Themes in cosmology (PONT) 2026

Contributed talks

Palais des papes, Avignon, Chambre du Trésorier

Monday 27 April

14:00

Contributed talks

Session | **Location:** Palais des papes, Avignon, Chambre du Trésorier | **Convener:** Lucas Pinol

14:00–14:20 **Inflation beyond perturbation theory**

Speaker

Sébastien Renaux-Petel

14:20–14:30 **de Sitter Momentum Space**

Speaker

Arthur Poisson

14:30–14:40 **Dual space for cosmological correlators**

Speaker

Nathan Belrhali

14:40–15:00 **A superposition quantum universe and its perturbations**

Speaker

Lisa Mickel

15:00–15:20 **Cosmological Probes of The Neutrino-DM Portal**

Speaker

Sebastian Trojanowski

15:20–15:30 **B-Mesogenesis: The mechanism revisited**

Speaker

Martha Ulloa Calzonzin

15:30–15:40 **Beyond spontaneous baryogenesis with extra fields**

Speaker

Mattia Dubbini

15:40–16:00 **Quasi-pole inflation in metric affine gravity**

Speaker

Antonio Racioppi

16:00

16:30

Contributed talks

Session | **Location:** Palais des papes, Avignon, Chambre du Trésorier | **Convener:** Sebastien Renaux

16:30–16:40 **Post-inflationary squeezing and the phase coherence of the CMB**

Speaker

Siméon Vareilles

16:40–17:00

Bayesian Optimisation for efficient cosmological model selection and parameter inference

Speaker

Ameek Malhotra

17:00–17:10

Thermal effects on Dark Matter production during cosmic reheating

Speaker

Mubarak Mohammed

17:10–17:30

Multimessenger phenomenology of nonperturbative quantum black holes

Speaker

Prof. Saeed Rastgoo

17:30–17:40

Quasi-periodic oscillations as probes of new physics: spin-curvature coupling in neutron star binaries

Speaker

Gabriele Bianchini

18:00

Tuesday 28 April

14:00

Contributed talks

Session | **Location:** Palais des papes, Avignon, Chambre du Trésorier | **Convener:** Nassim Bozorgnia

14:00–14:20

Cosmological implications of the Gaia Milky Way declining rotation curve.

Speaker

Alain BLANCHARD

14:20–14:40

Cosmological constraints on dark sectors from CMB and Lyman-alpha

Speaker

Sonali VERMA

14:40–15:00

Heating the dark matter halo with dark radiation from supernovae

Speaker

Stefan Vogl

15:00–15:20

Casimir pressure in the presence of axion dark matter

Speaker

Ahmad Alachkar

15:20–15:30

Piezoaxionic Detection of Axion Dark Matter with Precessing Nuclear Spins

Speaker

Baraa YAHYA

15:30–15:50

Light bosons from cold isolated Neutron Stars

Speaker

Alessandro Lella

15:50–16:00

Probing Long-Lived Particles with Gravitational Wave Background Spectral Breaks

Speaker

Angus Spalding

16:00

16:30

Contributed talks

Session | **Location:** Palais des papes, Avignon, Chambre du Trésorier | **Convener:** Julien Lavalle

16:30–16:50

Topological Portals to the Dark Sector

Speaker

Nudžeim Selimović

16:50–17:10

Cosmic-ray antinuclei in dark matter searches: Insights from collider data

Speaker

Jordan Koechler

17:10-17:30

Indirect searches for sub-GeV Dark Matter models in present and upcoming observations

Speaker

Dr Arpan Kar

17:30-17:40

Probing Galactic dark matter objects from the heating of exoplanetary systems

Speaker

Théo Paré

17:40-17:50

Hunting invisible particles with the RES-NOVA Observatory

Speaker

Nahuel Ferreiro Iachellini

17:50-18:10

Observing Leptogenesis in Action with Gravitational Waves

Speaker

Jan Schuette Engel

18:30

Wednesday 29 April

14:00

Contributed talks

Session | **Location:** Palais des papes, Avignon, Chambre du Trésorier | **Convener:** Diego Blas

14:00–14:20

First measurement of the Hubble constant from gravitational wave-galaxy cross-correlations

Speaker

Isabela Santiago de Matos

14:20–14:30

Cosmology with the Angular Cross-Correlation of Galaxies and Gravitational Waves

Speaker

Alessandro PEDROTTI

14:30–14:40

Multi-probe Cosmology with Standard Sirens: a GWxHI Cross-correlation Approach

Speaker

Matteo Schulz

14:40–14:50

A full, high-dimensional sampling scheme for gravitational-wave dark sirens: measuring galaxy weighting and ranking host candidates

Speaker

Alessandro AGAPITO

14:50–15:00

Resolving structure in the binary black hole mass distribution: implications for population-based cosmology

Speaker

Vasco GENNARI

15:00–15:10

Spectral sirens cosmology from binary black holes populations with sharper mass features

Speaker

Tom BERTHEAS

15:10–15:20

Gravitational Waves as a Probe of DESI-Motivated Modified Gravity: A Multi-Messenger Forecast

Speaker

Andrea Cozzumbo

15:20–15:30

A universal scaling law for sourced inflationary gravitational waves and applications

Speaker
Martin Teuscher

15:30–15:40 **Quantum production of gravitational waves after inflation**

Speaker
Alina Mierna

15:40–15:50

Unveiling the Central Engine of Core-collapse Supernovae in the Local Universe: Neutron Star or Black Hole?

Speaker
Maryam Aghaei Abchouyeh

15:50–16:00

A model-independent cosmological test of GR using gravitational wave propagation

Speaker
Elena Colangeli

16:00

16:30

Contributed talks

Session | **Location:** Palais des papes, Avignon, Chambre du Trésorier | **Convener:** Giulia Cusin

16:30–16:50 **Dispersion induced friction in gravitational wave propagation**

Speaker
Dr Charles DALANG

16:50–17:10 **Cosmology with strong gravitational lenses**

Speaker
Pierre Fleury

17:10–17:20

Line of Sight Shear Cosmology - Verification with Hydrosimulated Strong Gravitational Lenses

Speaker
Giacomo QUEIROLO

17:20–17:30 **Gravitational lensing beyond the eikonal approximation**

Speaker
Emma BRUYERE

17:30–17:40

Light scalar fields on a curved background and their influence on the dynamics of galaxies.

Speaker
Lukasz Bunio

17:40–18:00

Having Fun with Spherical Collapse: Halo Abundance in Decaying Dark Matter Models

Speaker
Thomas Montandon

18:00-18:10

Deciphering Coupled Scalar Dark Sectors through the lens of dynamical systems.

Speaker

Saba Rahimy

18:30

Thursday 30 April

14:00

Contributed talks

Session | **Location:** Palais des papes, Avignon, Chambre du Trésorier | **Convener:** Alain BLANCHARD

14:00–14:20 **Dark energy from string theory**

Speaker

Dr David Andriot

14:20–14:40 **Interacting dark energy with dark matter entropy couplings**

Speaker

Elsa Teixeira

14:40–14:50

INTERPRETABLE MACHINE LEARNING FOR DYNAMICAL DARK ENERGY MODELS

Speaker

Giulia Borghetto

14:50–15:10

The expansion-rate fluctuation from Cosmicflows-4 compared to the standard model of cosmology

Speaker

Basheer KALBOUNEH

15:10–15:30

Inhomogeneity, anisotropy and axial symmetry with Szekeres cosmological models

Speaker

Dr Marie-Noëlle Célérier

15:30–15:40

Covariant cosmography in the presence of local structures: comparing exact solutions and perturbation theory

Speaker

Maharshi SARMA

15:40–15:50

On the origin of dynamical dark energy in cosmographic parameters

Speaker

Maurice van putten

15:50–16:10

Measuring cosmic dipole with GRBs

Speaker

Jessica Santiago

16:10–16:40

CMB status and promises in mid 2026

Speaker

Francois BOUCHET

16:40