

# **Cosmic Origins and the Search for New Physics**

## **Report of Contributions**

Contribution ID: 2

Type: **not specified**

## Welcome

Contribution ID: 3

Type: **not specified**

## **Debaprasad Maity**

Contribution ID: 4

Type: **not specified**

## **Brief talk I**

Contribution ID: 5

Type: **not specified**

## **Short talk II**

Contribution ID: 6

Type: **not specified**

## **Brief talk II**

Contribution ID: 7

Type: **not specified**

## **Brief talk IV**

Contribution ID: **8**

Type: **not specified**

## **Brief talk V**

Contribution ID: 9

Type: **not specified**

## **Brief talk VI**

Contribution ID: **10**

Type: **not specified**

## **Plenary 5**

Contribution ID: 11

Type: **not specified**

## **Short talk IV**

Contribution ID: 12

Type: **not specified**

## **Short talk V**

Contribution ID: 13

Type: **not specified**

## **Brief talk VII**

Contribution ID: 14

Type: **not specified**

## **Brief talk IX**

Contribution ID: 15

Type: **not specified**

## **Brief talk X**

Contribution ID: **16**

Type: **not specified**

## **Brief talk XI**

Contribution ID: 17

Type: **not specified**

## Plenary VIII

Contribution ID: **18**

Type: **not specified**

## **Brief talk XII**

Contribution ID: 19

Type: **not specified**

## **Brief talk XIII**

Contribution ID: **20**

Type: **not specified**

## **Brief talk XIV**

Contribution ID: 21

Type: **not specified**

## **Brief talk XV**

Contribution ID: 22

Type: **not specified**

## Plenary X

Contribution ID: 23

Type: **not specified**

## **Short talk IX**

Contribution ID: 24

Type: **not specified**

## **Short talk X**

Contribution ID: 25

Type: **not specified**

## **Brief talk XVIII**

Contribution ID: **26**

Type: **not specified**

## **Brief talk XIX**

Contribution ID: 27

Type: **not specified**

## **Brief talk XX**

Contribution ID: **28**

Type: **not specified**

## **Plenary XIII**

Contribution ID: 29

Type: **not specified**

## **Short talk XII**

Contribution ID: **30**

Type: **not specified**

## **Short talk XIV**

Contribution ID: 31

Type: **not specified**

## **Brief talk XXI**

Contribution ID: 32

Type: **not specified**

## **Brief talk XXII**

Contribution ID: 33

Type: **not specified**

## **Brief talk XXIII**

Contribution ID: 34

Type: **not specified**

## **Brief talk XXIV**

Contribution ID: 35

Type: **not specified**

## **Vote of thanks**

Contribution ID: 36

Type: **not specified**

## Closing remarks

*Friday, 23 January 2026 15:30 (10 minutes)*

Contribution ID: 37

Type: **not specified**

## Debaprasad Maity

**Session Classification:** Testing cosmic inflation with gravitational wave experiments

Contribution ID: 38

Type: **not specified**

## **Exotic energy injection during cosmic dawn**

**Presenter:** Dr PALOMARES-RUIZ, SERGIO

**Session Classification:** Exotic energy injection during cosmic dawn

Contribution ID: 39

Type: **not specified**

## Exotic energy injection during cosmic dawn

*Tuesday, 20 January 2026 14:00 (45 minutes)*

**Presenter:** Dr PALOMARES RUIZ, Sergio

Contribution ID: **40**

Type: **not specified**

## **Gravitational wave background from primordial magnetic field**

*Tuesday, 20 January 2026 14:45 (30 minutes)*

**Presenter:** Dr SHARMA, Ramkishor

Contribution ID: 41

Type: **not specified**

## Probing Extended Mass Distributions of Primordial Black Holes in NANOGrav and LVK

*Tuesday, 20 January 2026 15:15 (20 minutes)*

**Presenter:** Dr BHAUMIK, Nilanjandev

Contribution ID: 42

Type: **not specified**

## **Dark matters are completely dark, or WIMPy, or FIMPy : An Inflationary gravitational particle production**

*Tuesday, 20 January 2026 16:00 (20 minutes)*

**Presenter:** Mr CHAKRABORTY, AYAN

Contribution ID: 43

Type: **not specified**

## **Implications of self-interactions of ultralight dark matter at galactic scales**

*Tuesday, 20 January 2026 16:20 (20 minutes)*

**Presenter:** Dr DAVE, Bihag

Contribution ID: 44

Type: **not specified**

## Loops in Cosmological Correlators

*Tuesday, 20 January 2026 16:40 (20 minutes)*

**Presenter:** Ms BHOWMICK, Supritha

Contribution ID: 45

Type: **not specified**

## Warm and Noisy Cosmological Fields

*Wednesday, 21 January 2026 09:30 (45 minutes)*

**Presenter:** AMIN, Mustafa

Contribution ID: 46

Type: **not specified**

## Isocurvature bounds on PBHs and non-Gaussianity

*Wednesday, 21 January 2026 10:15 (45 minutes)*

**Presenter:** GONG, Jinn-Ouk

Contribution ID: 47

Type: **not specified**

## **Understanding the Universe with the cosmic microwave background**

*Wednesday, 21 January 2026 11:30 (30 minutes)*

**Presenter:** KHATRI, Rishi

Contribution ID: **48**

Type: **not specified**

## **Using the early universe as a quantum laboratory**

*Wednesday, 21 January 2026 12:00 (30 minutes)*

**Presenter:** PETER, Patrick

Contribution ID: **49**

Type: **not specified**

## **Reconstructing primordial features on large scales using machine learning**

*Wednesday, 21 January 2026 14:00 (20 minutes)*

**Presenter:** HOORY, Alipriyo

Contribution ID: 50

Type: **not specified**

## **Primordial Magnetogenesis as a Unified Origin of PBHs, Dark Matter, and Gravitational Waves**

*Wednesday, 21 January 2026 14:20 (20 minutes)*

**Presenter:** MAITI, SUBHASIS

Contribution ID: 51

Type: **not specified**

## Asymmetries from Primordial Black Holes

*Wednesday, 21 January 2026 14:40 (20 minutes)*

**Presenter:** LOHO, Koushik

Contribution ID: 52

Type: **not specified**

## Capturing the 21-cm signal in radio interferometers

*Wednesday, 21 January 2026 15:00 (20 minutes)*

**Presenter:** ELAHI, Asif

Contribution ID: 53

Type: **not specified**

## **Cosmic Hum of Gravitational Waves from the Early Universe**

*Thursday, 22 January 2026 09:30 (45 minutes)*

**Presenter:** MUKHERJEE, Suvodip

Contribution ID: 54

Type: **not specified**

## **Looking for new physics via CMB and Gravitational Waves**

*Thursday, 22 January 2026 10:15 (45 minutes)*

**Presenter:** BARTOLO, Nicola

Contribution ID: 55

Type: **not specified**

## **Warm Inflation 2.0–The resurgence story**

*Thursday, 22 January 2026 11:30 (30 minutes)*

**Presenter:** GANGOPADHYAY, Mayukh

# From Poles to Branch Cuts–Analytic Structure of Cosmological Correlators

Thursday, 22 January 2026 12:00 (30 minutes)

**Presenter:** GHOSH, Diptimoy

Contribution ID: 57

Type: **not specified**

## Effects of dissipation during the accelerating epochs

*Thursday, 22 January 2026 14:00 (30 minutes)*

**Presenter:** DAS, Suratna

Contribution ID: 58

Type: **not specified**

## **Cosmological Dynamics of Scalar Fields in String-Motivated Models**

*Thursday, 22 January 2026 14:30 (30 minutes)*

**Presenter:** ZAVALA, Ivonne

Contribution ID: 59

Type: **not specified**

## Primordial Magnetogenesis with Dark Photons

*Thursday, 22 January 2026 15:00 (20 minutes)*

**Presenter:** NANDI, Debottam

Contribution ID: **60**

Type: **not specified**

## **Power Suppression and Lensing Anomaly - A phenomenological investigation**

*Thursday, 22 January 2026 16:00 (20 minutes)*

**Presenter:** K, Roshana

Contribution ID: **61**

Type: **not specified**

## **Constraining the early universe with NANOGrav 15-year data**

*Thursday, 22 January 2026 16:20 (20 minutes)*

**Presenter:** MAITY, Suvashis

Contribution ID: **62**

Type: **not specified**

## **Anomalies and tensions in cosmology**

*Thursday, 22 January 2026 16:40 (20 minutes)*

**Presenter:** MUKHERJEE, Purba

Contribution ID: 63

Type: **not specified**

## **Gauge fields and parity violation in the early universe**

*Friday, 23 January 2026 09:30 (45 minutes)*

**Presenter:** KUMAR JAIN, Rajeev

Contribution ID: 64

Type: **not specified**

## **Primary gravitational waves at high frequencies–Origin of suppression in the power spectrum**

*Friday, 23 January 2026 10:15 (45 minutes)*

**Presenter:** MARTIN, Jerome

Contribution ID: 65

Type: **not specified**

## Bayesian optimisation for efficient cosmological model selection

*Friday, 23 January 2026 11:30 (20 minutes)*

**Presenter:** MALHOTRA, Ameek

Contribution ID: **66**

Type: **not specified**

## **The importance of being warm in the Early Universe**

**Presenter:** CHAKRABORTY, Dibya

Contribution ID: 67

Type: **not specified**

# AI/ML Techniques for Model-Independent Cosmological Analysis

Friday, 23 January 2026 12:10 (20 minutes)

**Presenter:** SHAH, Rahul

Contribution ID: **68**

Type: **not specified**

## **Anchoring The Universe at Characteristic Redshifts and Measurement of the Hubble Parameter**

*Friday, 23 January 2026 14:00 (30 minutes)*

**Presenter:** ANANDA SEN, Anjan

Contribution ID: **69**

Type: **not specified**

## **Validity of separate-universe approach in transient ultraslow-roll inflation**

*Friday, 23 January 2026 14:30 (20 minutes)*

**Presenter:** RAVEENDRAN, Rathul Nath

Contribution ID: **70**

Type: **not specified**

## **Non-minimal coupling of scalar fields in the dark sector and generalization of the top-hat collapse**

*Friday, 23 January 2026 14:50 (20 minutes)*

**Presenter:** SAHA, Priyanka

Contribution ID: 71

Type: **not specified**

## **Inflationary trispectrum of gauge fields from scalar and tensor exchanges**

*Friday, 23 January 2026 15:10 (20 minutes)*

**Presenter:** SAI, Jishnu

Cosmic Origins ... / Report of Contributions

Emergence of the exponential cut- ⋯

Contribution ID: 72

Type: **not specified**

# Emergence of the exponential cut-off in the spectrum of PGWs at small scales

Friday, 23 January 2026 11:50 (20 minutes)

**Presenter:** PAUL, Arnab