

**Session Program**

**13-17 May 2024**



**DPF - PHENO 2024**

***Cosmology & Dark Energy***

University of Pittsburgh / Carnegie Mellon University

# Monday 13 May

14:00

## Cosmology & Dark Energy: BAO review, Dark Radiation, Millicharge

**Session** | **Location:** University of Pittsburgh, Barco Law Building 107 | **Convener:** Fazlollah Hajkarim

**14:00-14:30** **Can we use Baryon Acoustic Oscillations distances?**

**Speaker**

Stefano Anselmi

**14:30-14:45** -

**14:45-15:00** **Cosmological Probes of Dark Radiation from Neutrino Mixing**

**Speaker**

Dr Itamar Allali

**15:00-15:15** **Dark Radiation Isocurvature from Cosmological Phase Transitions**

**Speaker**

Mitchell Weikert

**15:15-15:30** **Cosmic Millicharge Background and Reheating Probes**

**Speaker**

Xucheng Gan

15:30

16:00

## Cosmology & Dark Energy: Anomalies and Baryogenesis

**Session** | **Location:** University of Pittsburgh, Barco Law Building 107 | **Convener:** Michael Shamma

**16:00-16:15**  **$w = -1.73$  solves the Hubble tension, but destroys the universe**

**Speaker**

David Lindsay

**16:15-16:30** **A Ratio-Preserving Approach to Concordance Cosmology**

**Speaker**

Kylar Greene

**16:30-16:45** **Dark Acoustic Oscillation Faces the Cosmological Tensions**

**Speaker**

Dr Taewook Youn

**16:45-17:00**

**Baryogenesis and Gravitational Wave Production in Simple Left-Right Model**

**Speaker**

Matthew Knauss

**17:00-17:15**

**Baryon asymmetry from dark matter decay in the vicinity of a phase transition**

**Speaker**

Indrajit Saha

17:15-17:30

**Cosmological implications of gauged  $U(1)_{B-L}$  on  $\Delta N_{\rm eff}$  in the CMB and BBN****Speaker**

Haidar Esseili

17:30

## Tuesday 14 May

16:00

### Cosmology & Dark Energy: Early Universe and Stasis

**Session** | **Location:** University of Pittsburgh, Barco Law Building 107 | **Convener:** Dr Taewook Youn

16:00-16:15

#### Cosmological Stasis from Dynamical Scalars

**Speaker**

Prof. Brooks Thomas

16:15-16:30

#### Cosmological Stasis and the Growth of Density Perturbations

**Speaker**

Ms Anna Paulsen

16:30-16:45

#### Cosmological Stasis in a Thermal Environment

**Speaker**

Mr Jonah Barber

16:45-17:00

#### Supersymmetric Grand Unification at the Cosmological Collider

**Speaker**

Edward Broadberry

17:00-17:15

#### Domain walls of string theory axions

**Speaker**

Saurav Das

17:15-17:30

#### Solving the strong CP problem with massless grand-color quarks

**Speaker**

Ravneet Bedi

17:30

## Wednesday 15 May

14:00

### Cosmology & Dark Energy: CMB and other observations

**Session** | **Location:** University of Pittsburgh, Barco Law Building 107 | **Convener:** Keisuke Inomata

14:00-14:15 -

14:15-14:30 **Cosmological Parameter Forecasts for a CMB-HD Survey**

**Speaker**

Amanda Macinnis

14:30-14:45

**Peculiar Velocity Improvements of Multi-Messenger Standard Siren Measurements**

**Speaker**

Ariel Amsellem

14:45-15:00

**Amplifying CMB phase shift with dark matter-radiation interactions**

**Speaker**

Daven Wei Ren Ho

15:00-15:15

**Results and progress of CMB lensing measurements using SPT-3G data**

**Speaker**

W.L. Kimmy Wu

15:15-15:30

**Producing cosmic birefringence through CP-violating axions**

**Speaker**

Anubhav Mathur

15:30

16:00

### Cosmology & Dark Energy: Early Universe

**Session** | **Location:** University of Pittsburgh, Barco Law Building 107 | **Convener:** Dr Subhajit Ghosh

16:00-16:15

**Early Dark Energy During Big Bang Nucleosynthesis**

**Speaker**

Afif Omar

16:15-16:30

**Correlated scalar perturbations and gravitational waves from axion inflation**

**Speaker**

Sofia Corbà

16:30-16:45

**Emergent particles of a de Sitter universe: Thermal interpretation of the stochastic formalism and beyond**

**Speaker**

Dr TaeHun Kim

16:45-17:00

**Transient Cosmological Quasiparticles**

17:30	<div><b>Speaker</b> He Li</div>
	<div><div>17:00-17:15</div><div><b>Runaway Mergers from Clustering in a Primordial Black Hole Dominated Universe</b></div><div><b>Speaker</b> Ian Holst</div></div>
	<div><div>17:15-17:30</div><div><b>Curvature Perturbations Protected Against One Loop</b></div><div><b>Speaker</b> Keisuke Inomata</div></div>