

## Session Program

8-26 Jan 2024



## IAS Program on High Energy Physics (HEP 2024)

### *Mini-workshop: Theory*

# Monday 15 January

08:30

## Mini-workshop: Theory: Registration

Session

08:50

08:55

## Mini-workshop: Theory: Welcome Remarks

Session

09:00

09:00

## Mini-workshop: Theory: MW-M-TH01

Session | Location: IAS2042, 2/F | Convener: Minho Son

09:00–09:30

### Phase Transitions during Inflation in Light of Gravitational Wave Signals in PTA Observations

Speaker

Haipeng An

09:30–10:00

### Dark Phase Transition as the Origin of nano-Hz Gravitational Waves

Speaker

Yuichiro Nakai

10:00–10:30

### Gravitational Waves from More Attractive Dark Binaries

Speaker

Sida Lu

10:30

11:00

## Mini-workshop: Theory: MW-M-TH02

Session | Location: IAS2042, 2/F | Convener: Yi Wang

11:00–11:30

### Detecting High-Frequency Gravitational Waves in Planetary Magnetosphere

Speaker

Jing Ren

11:30–12:00

### A Fast Code to Generate Overlap Reduction Functions for Gravitational Wave Background Search

Speaker

Kin Wang Ng

12:00–12:30

### Enhanced Gravitational Waves induced by Curvature Perturbations and New Physics

Speaker

Takahiro Terada

12:30

14:30

## Mini-workshop: Theory: MW-M-TH03

Session | Location: IAS2042, 2/F | Convener: Jing Shu

14:30–15:00

### From First Order Phase Transitions to GWs

15:30	<p><b>Speaker</b> Peter Athron</p>
	<p>15:00–15:30</p> <p><b>Dissipative Effects as New Observables for Cosmological Phase Transitions</b></p> <p><b>Speaker</b> Huaikuo Guo</p>
16:00	<p><b>Mini-workshop: Theory: MW-M-TH04</b>  <b>Session</b>   <b>Location:</b> IAS2042,2/F   <b>Convener:</b> Giovanni Villadoro</p>
	<p>16:00–16:30    <b>Dark Matter under the Gravitational Lens</b></p> <p><b>Speaker</b> Jeremy Lim</p>
	<p>16:30–17:00</p> <p><b>Constraining Dark Matter Self-interactions from Weak Lensing in Clusters</b></p> <p><b>Speaker</b> Yiming Zhong</p>
18:00	<p>17:00–17:30    <b>Searching for Dark Matter Decay with LHAASO</b></p> <p><b>Speaker</b> Kenny Ng</p>

## Tuesday 16 January

09:00

### Mini-workshop: Theory: MW-Tu-TH01

**Session** | **Location:** IAS2042, 2/F | **Convener:** Haipeng An

09:00–09:30 **Relic QCD Axions from the Early Universe**

**Speaker**

Giovanni Villadoro

09:30–10:00 **Axion-Gauge Coupling Quantization in Standard Model**

**Speaker**

Ho Tat Lam

10:00–10:30 **Axion Dark Matter from Cosmic String Network**

**Speaker**

Minho Son

10:30

11:00

### Mini-workshop: Theory: MW-Tu-TH02

**Session** | **Location:** IAS2042, 2/F | **Convener:** Jing Ren

11:00–11:30 **Cosmological Parity Violation**

**Speaker**

Yi Wang

11:30–12:00

**Can We Explain Cosmic Birefringence Without a New Light Field Beyond Standard Model?**

**Speaker**

Yucheng Qiu

12:00–12:30

**Using Galaxy Formation Models to Unveil the Nature of Dark Matter in JWST Era**

**Speaker**

Giorgio Manzoni

12:30

14:30

### Mini-workshop: Theory: MW-Tu-TH03

**Session** | **Location:** IAS2042, 2/F | **Convener:** Yiming Zhong

14:30–15:00 **SFR Cavity Physics**

**Speaker**

Jing Shu

15:00–15:30 **Forbidden Conformal Dark Matter at a GeV**

**Speaker**

Seung Lee

15:30

16:00

**Mini-workshop: Theory: MW-Tu-TH04**

**Session** | **Location:** IAS2042, 2/F | **Convener:** Liantao Wang

16:00–16:30    **Quantum Computing for HEP**

**Speaker**

Yíng Yíng Li

16:30–17:00    **A New Framework on Global Analysis of Fragmentation Functions**

**Speaker**

Jun Gao

17:00–17:30  
**Detecting Afterglow Signature from Light Dark Matter Boosted by Supernova Neutrinos**

**Speaker**

Yen-Hsun Lin

17:30