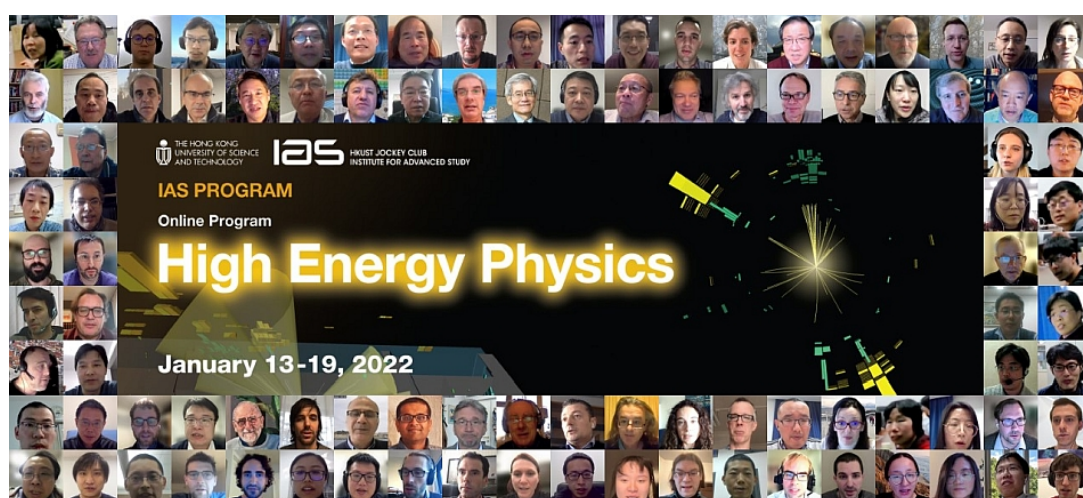


## Session Program

13-19 Jan 2022



## IAS Program on High Energy Physics (HEP 2022)

### ***Mini-workshop: Theory - Searching for New Physics at Various Energy Scales***

Online via Zoom  
(Details will be available in due course)

# Thursday 13 January

08:55

## Mini-workshop: Theory - Searching for New Physics at Various Energy Scales: Day 1 - Session 1: (MW-TH-D1-S1) / Theme: Ultra-heavy DM

**Session** | **Location:** Online via Zoom, (Details will be available in due course) | **Convener:** Yue ZHAO

### 08:55–09:00 Opening Remarks

#### Speaker

Tao LIU

### 09:00–09:30 Dark Matter from Primordial Black Holes

#### Speaker

Pearl SANDICK

### 09:30–10:00 Did LIGO Detect Dark Matter? An Update

#### Speaker

Simeon BIRD

### 10:00–10:30

## Primordial Black Holes as Dark Matter in the View of LIGO/Virgo Observations

#### Speaker

Sébastien CLESSE

### 10:30–10:40 Break

10:40

10:40

## Mini-workshop: Theory - Searching for New Physics at Various Energy Scales: Day 1 - Session 2: (MW-TH-D1-S2) / Theme: Ultra-light DM

**Session** | **Location:** Online via Zoom, (Details will be available in due course) | **Convener:** Tao LIU

### 10:40–11:10 The Cosmic Axion Background

#### Speaker

Jeff DROR

### 11:10–11:40

## Determining the Existence of Primordial Black Holes and Ultralight Dark Matter Using Gravitational-wave Detectors

#### Speaker

Andrew MILLER

### 11:40–12:10 Axi-Higgs Cosmology

#### Speaker

Henry TYE

### 12:10–15:00 Long Break

15:00

15:00

## Mini-workshop: Theory - Searching for New Physics at Various Energy Scales: Day 1 - Session 3 (MW-TH-D1-S3) / Theme: Ultra-light DM

**Session** | **Location:** Online via Zoom, (Details will be available in due course) | **Convener:** Yue ZHAO

15:00–15:30 **Gravitational Wave Detection between NANOGrav and LISA**

**Speaker**

Surjeet RAJENDRAN

15:30–16:00 **Pulsar Polarization Arrays**

**Speaker**

Jing REN

16:00–16:30 **Solar Reflection of Dark Matter**

**Speaker**

Haipeng AN

16:30–16:40 **Break**

16:40

16:40

## Mini-workshop: Theory - Searching for New Physics at Various Energy Scales: Day 1 - Session 4 (MW-TH-D1-S4) / Theme: Ultra-light DM

**Session** | **Location:** Online via Zoom, (Details will be available in due course) | **Convener:** Yue ZHAO

16:40–17:10 **Dark Photon Dark Matter Searches at LIGO**

**Speaker**

Huaike GUO

17:10–17:40

### Search for Ultralight Dark Matter and Cosmological Phase Transition with Parkes Pulsar Timing Array

**Speaker**

Qiang YUAN

17:40–18:10 **Heavy Sterile Neutrinos: From Cosmology to Experiment**

**Speaker**

Marco DREWES

18:10

## Friday 14 January

09:00

### Mini-workshop: Theory - Searching for New Physics at Various Energy Scales: Day 2 - Session 1 (MW-TH-D2-S1) / Theme: Sub-GeV/ GeV/ TeV DM

**Session** | **Location:** Online via Zoom, (Details will be available in due course) | **Convener:** Ke FANG

09:00–09:30

#### Direct Detection of Sub-GeV Dark Matter

##### Speaker

Tongyan LIN

09:30–10:00

#### Indirect Detection limits on Minimal Electroweak Dark Matter

##### Speaker

Matthew BAUMGART

10:00–10:30

#### Neutrino Astronomy at High Energies

##### Speaker

Qinrui LIU

10:30–10:40

#### Break

10:40

10:40

### Mini-workshop: Theory - Searching for New Physics at Various Energy Scales: Day 2 - Session 2 (MW-TH-D2-S2) / Theme: Sub-GeV/ GeV/ TeV DM

**Session** | **Location:** Online via Zoom, (Details will be available in due course) | **Convener:** Ke FANG

10:40–11:10

#### Ultra-diffuse Galaxies and Their Complications for Testing Dark Matter Theories

##### Speaker

Hai-bo YU

11:10–11:40

#### Searching for Ultra-light Bosons in Stellar Tidal Disruption Events

##### Speaker

Daniel EGANA-UGRINOVIC

11:40–12:10

#### Detecting High-Frequency Gravitational Waves with Microwave Cavities

##### Speaker

Jan SCHÜTTE-ENGEL

12:10–15:00

#### Long Break

15:00

15:00

### Mini-workshop: Theory - Searching for New Physics at Various Energy Scales: Day 2 - Session 3 (MW-TH-D2-S3) / Theme: Sub-GeV/ GeV/ TeV DM

**Session** | **Location:** Online via Zoom, (Details will be available in due course) | **Convener:** Ke FANG

15:00–15:30

#### TeV Halos: A New Class of TeV Sources Powered by Pulsars

**Speaker**

Timothy LINDEN

15:30–16:00

**Recent Developments in the Very-high-energy Gamma-ray Astronomy****Speaker**

Hao ZHOU

16:00–16:30

**Multi-messenger Searches for New Physics****Speaker**

Daniele GAGGERO

16:30–16:40

**Break**

16:40

16:40

**Mini-workshop: Theory - Searching for New Physics at Various Energy Scales: Day 2 - Session 4 (MW-TH-D2-S4) / Theme: Sub-GeV/ GeV/ TeV DM****Session** | **Location:** Online via Zoom, (Details will be available in due course) | **Convener:** Tao LIU

16:40–17:10

**Super Heavy Dark Matter****Speaker**

Eric KUFLIK

17:10–17:40

**Searching for Dark Matter with High-energy Neutrinos****Speaker**

Kenny C. Y. NG

17:40–18:10

**Cosmic Ray Boosted Dark Matter for Overcoming the Direct Detection Threshold****Speaker**

Shao-Feng GE

18:10