

**Session Program**

**9-13 Jun 2025**

**HPNP2025 - The 7th International Workshop  
on "Higgs as a Probe of New Physics"**

***Parallel***

The University of Osaka, Nambu-Yoichiro Hall  
1-1 Machikaneyama-cho, Toyonaka, Osaka, Japan

# Monday 9 June

14:30

## Parallel: Session 1B: T. Nomura

**Session** |

**Location:** The University of Osaka, H701 in Graduate School of Science, 1-1 Machikaneyama-cho, Toyonaka, Osaka, Japan

14:30–14:45

### Left-right symmetric model with lepton portal dark matter

**Speaker**

Yuji Omura

14:45–15:00

### Coincident asteroid-mass soliton dark matter and baryon asymmetry

**Speaker**

Kepan Xie

15:00–15:15

### Resummed multi-line gamma-ray spectra for Cherenkov Telescopes from heavy spin-1 dark matter

**Speaker**

Motoko Fujiwara

15:15–15:30

### Interpreting Belle II excess with light dark matter

**Speaker**

Jongkuk Kim

15:30–15:45

### Light WIMPs and MeV Gamma-ray Detection with COSI

**Speaker**

Yu Watanabe

15:45

16:15

## Parallel: Session 2B: Chair V. Branchina

**Session** |

**Location:** The University of Osaka, H701 in Graduate School of Science, 1-1 Machikaneyama-cho, Toyonaka, Osaka, Japan

16:15–16:30

### Towards a Quantum Simulation of Sphaleron Dynamics

**Speaker**

Hao Zhang

16:30–16:45

### Super-radiance during reheating

**Speaker**

Kunio Kaneta

16:45–17:00

### Possibilities of explaining the electroweak scale by generalized ensembles in QFT

**Speaker**

Kiyoharu Kawana

17:00–17:15

### Light thermal self-interacting dark matter in the shadow of non-standard cosmology

**Speaker**

Shu-Yu Ho

17:15-17:30

**Implication from the entanglement entropy for phase transitions in the early Universe**

**Speaker**

Masanori Tanaka

17:30

## Tuesday 10 June

14:30

### Parallel: Session 3B: Chair R. Jinno

**Session** |

**Location:** The University of Osaka, H701 in Graduate School of Science, 1-1 Machikaneyama-cho, Toyonaka, Osaka, Japan

14:30–14:45

#### **Directional Detection of Boosted Dark Matter from Dark Photon-Mediated Annihilation**

**Speaker**

Keiko Nagao

14:45–15:00

#### **SIMP Dark Matter During Reheating**

**Speaker**

Debtosh Chowdhury

15:00–15:15

#### **Spontaneous CP violation, sterile neutrino dark matter and leptogenesis**

**Speaker**

Norimi Yokozaki

15:15–15:30

#### **Revisiting the bounds on diffuse axion-like particles background from gamma-ray observations**

**Speaker**

Sougata Ganguly

15:30–15:45

#### **Probing early universe reheating at the lepton colliders via dark matter UV freeze-in**

**Speaker**

Sahabub Jahedi

15:45

# Thursday 12 June

11:30

## Parallel: Session 4B: Chair J. Song

**Session** |

**Location:** The University of Osaka, H701 in Graduate School of Science, 1-1 Machikaneyama-cho, Toyonaka, Osaka, Japan

11:30–11:45

### Cosmological Signatures of Neutrino Seesaw Mechanism

**Speaker**

Chengcheng Han

11:45–12:00

### Model building aspects of cosmological collider

**Speaker**

Shuntaro Aoki

12:00–12:15

### Resonant Forbidden Leptogenesis

**Speaker**

Shaoping Li

12:15–12:30

### New physics decaying into metastable particles: impact on cosmic neutrinos

**Speaker**

Kensuke Akita

12:30–12:45

### Gravitational Waves and Inflationary Observables as Windows to Non-Thermal Leptogenesis

**Speaker**

Dibyendu Nanda

12:45–13:00

### Gauge coupling jump and small instantons from a large non-minimal coupling

**Speaker**

Juntaro Wada

13:00

## Friday 13 June

11:30

### Parallel: Session 5B: Chair I. Ivanov

**Session** |

**Location:** The University of Osaka, H701 in Graduate School of Science, 1-1 Machikaneyama-cho, Toyonaka, Osaka, Japan

11:30–11:45

**Prospects on the minimal 5D  $U(1)_{L_{\mu} - L_{\tau}}$ : Power of DUNE near detector**

**Speaker**

Kenji Nishiwaki

11:45–12:00

**Light gauge boson in the context of low and high energy experiments**

**Speaker**

Arindam Das

12:00–12:15

**Symmetric mass generation**

**Speaker**

Akio Tomiya

12:15–12:30

**Future beam dumps constraint on light bosons with lepton flavor violating couplings**

**Speaker**

Kento Asai

12:30–12:45

**Pseudo NG bosons from finite modular symmetry**

**Speaker**

Junichiro Kawamura

12:45–13:00

**Analysing  $\Lambda_b \rightarrow \Lambda^* \nu \bar{\nu}$  decay in light of the recent Belle-II  $B^+ \rightarrow K^+ \nu \bar{\nu}$  data**

**Speaker**

Ria Sain

13:00