

**Session Program**

**9-13 Dec 2024**

**International Joint Workshop on the Standard  
Model and Beyond 2024 & 3rd Gordon  
Godfrey Workshop on Astroparticle Physics**

***Plenary***

# Monday 9 December

09:15

## Plenary

**Session** | **Location:** Ainsworth Building, G03 | **Convener:** Prof. Archil Kobakhidze

09:15–09:30 **Opening**

09:30–10:00 **Lessons from the Seiberg-Witten axion**

**Speaker**  
Csaba Csaki

10:00–10:30  **$\theta$ -vacua, quantum gravity and particles spectrum**

**Speaker**  
Dr Otari Sakhelashvili

10:30

11:00

## Plenary

**Session** | **Location:** Ainsworth Building, G03 | **Convener:** Igor Samsonov

11:00–11:30

**Classical Backgrounds as Coherent States and Canonical Quantization of General Relativity**

**Speaker**  
Lasha Berezhiani

11:30–12:00

**Precision Low-Energy Experiments to Search for signs of Quantum Gravity and Dark Matter Particles**

**Speaker**  
Michael Tobar

12:00

14:00

## Plenary

**Session** | **Location:** Ainsworth Building, G03 | **Convener:** Prof. Alan Stanley Cornell

14:00–14:30 **New results in axion physics**

**Speaker**  
Tony Gherghetta

14:30–15:00 **Theoretical developments in flavor physics**

**Speaker**  
Wolfgang Altmannshofer

15:00–15:30 **New developments in effective field theory**

**Speaker**  
Julie Pagès

15:30–16:00 **Proton decay from the bottom up**

**Speaker**  
John Gargalionis

16:00

16:30

18:00

Plenary

Session | Location: Ainsworth Building, G03 | Convener: Giovanni Pierobon

16:30-17:00	<b>Gravitational relics from topological defects</b>  <b>Speaker</b> Naoya Kitajima
17:00-17:30	<b>The minimal cosmological standard model</b>  <b>Speaker</b> Wanil Park
17:30-18:00	<b>Our Universe in Simulation</b>  <b>Speaker</b> Jia Liu

# Tuesday 10 December

09:00

## Plenary

**Session** | **Location:** Ainsworth Building, G03 | **Convener:** Csaba Balazs

09:00–09:30

### Saturons

#### Speaker

Gia Dvali

09:30–10:00

### Light dark matter detection

#### Speaker

Dr Peter Cox

10:00–10:30

### Blazar-boosted dark matter: a cosmic accelerator for Sub-GeV dark matter particle detection

#### Speaker

Laura Manenti

10:30–10:31

### Announcement - parallel sessions

10:31

11:00

## Plenary

**Session** | **Location:** Ainsworth Building, G03 | **Convener:** Aaron Vincent

11:00–11:30

### Capture, Thermalization and Annihilation of Dark Matter in Neutron Stars

#### Speaker

Prof. Nicole Bell

11:30–12:00

### Halo as a key to indirect DM searches

#### Speaker

Nagisa Hiroshima

12:00–12:30

### Extreme energy cosmic rays: where do they all come from?

#### Speaker

Zurab Berezhiani

12:30

# Wednesday 11 December

09:00

## Plenary

**Session** | **Location:** Ainsworth Building, G03 | **Convener:** Prof. Matthew Dolan

09:00–09:30

### Cogenesis by Majoron

#### Speaker

Eung Jin Chun

09:30–10:00

### Baryon Asymmetry of the Universe and New Physics

#### Speaker

Seyda Ipek

10:00–10:30

### Calculating and Detecting Gravitational Waves from the Sound in Cosmological Phase Transitions

#### Speaker

Huaike Guo

10:30

11:00

## Plenary

**Session** | **Location:** Ainsworth Building, G03 | **Convener:** Ryuichiro Kitano

11:00–11:30

### Axions beyond the QCD axion

#### Speaker

Stefania Gori

11:30–12:00

### Axion-like particle at the LHC

#### Speaker

Kingman Cheung

12:00–12:30

### muTRISTAN

#### Speaker

Ryutaro Matsudo

12:30–13:00

### Neutrino flavor oscillations in supernovae

#### Speaker

Meng-Ru Wu

13:00

# Thursday 12 December

09:00

## Plenary

**Session** | **Location:** Ainsworth Building, G03 | **Convener:** Narendra Sahu

09:00–09:30

### Hyper-Kamiokande: Towards New Discoveries in (Astro)Particle Physics

#### Speaker

Patrick de Perio

09:30–10:00

### Neutrino physics phenomenology

#### Speaker

Julia Gehrlein

10:00–10:30

### Probing Seesaw Scale at a Cosmological Neutrino Collider

#### Speaker

Prof. Chengcheng Han

10:30

11:00

## Plenary

**Session** | **Location:** Ainsworth Building, G03 | **Convener:** Ameet Malhotra

11:00–11:30

### Consequences of phase transitions occurred during inflation

#### Speaker

Haipeng An

11:30–12:00

### Impacts of the ALP on dark photon searches

#### Speaker

Chuan-Ren Chen

12:00–12:30

### Axion DM from Inflation-driven Quantum Phase Transition

#### Speaker

Seung J. Lee

12:30–12:31

### Announcement

12:31

16:20

## Plenary

**Session** | **Location:** Ainsworth Building, G03 | **Convener:** Prof. Cheng-Wei Chiang

16:20–16:50

### Gravitational Waves and Dark Matter in Gauged Two-Higgs Doublet Model

#### Speaker

tc yuan

16:50–17:20

### Interplay between $(g-2)_{e,\mu}$ anomalies and lepton flavor violating decays in models beyond the Standard Model with inverse seesaw neutrinos

#### Speaker

Tho Hue Le

17:20-17:50

**Lessons from the by-gone anomalies: From Data to Models to Theories**

**Speaker**

Prof. Pyungwon Ko

17:50

# Friday 13 December

09:00

## Plenary

**Session** | **Location:** Ainsworth Building, G03 | **Convener:** Ciaran O'Hare

09:00–09:30

### Weak supervision techniques in collider physics

#### Speaker

Prof. Cheng-Wei Chiang

09:30–10:00

### Neutrino Mass and Mass Ordering with Cosmic Gravitational Focusing

#### Speaker

Prof. Shao-Feng Ge

10:00–10:30

### False vacuum decay in and out of equilibrium

#### Speaker

Andrey Shkerin

10:30

11:00

## Plenary

**Session** | **Location:** Ainsworth Building, G03 | **Convener:** Dipan Sengupta

11:00–11:30

### Unitarity, Causality, and Solar System Bounds, Significantly Limit Using Gravitational Waves to Test General Relativity

#### Speaker

Mark Hertzberg

11:30–12:30

### Spin-2 Scattering Amplitudes and Gravitational Portal Dark Matter

#### Speakers

Elizabeth Simmons, R. Sekhar Chivukula

12:30–12:35

### Closing remarks

12:45