

## **Session Program**

**2-5 Apr 2023**

# **2023 IoP Joint APP and HEPP Annual Conference**

## ***Parallel stream 4***

King's College London, Bush House Arcade (South Central) Arcade Entrance  
Bush House, Strand campus, London, WC2B 4BG

# Monday 3 April

15:00

## Parallel stream 4: Session 1

**Session** | **Location:** S2.03, 2nd floor, Bush House | **Convener:** Matthew David Needham

15:00–15:15

### Flavour symmetries and CP asymmetries- testing the Standard Model in $B \rightarrow DD$ decays

#### Speaker

Jonathan Davies

15:15–15:30

### Search for Prompt Pentaquarks in the LHCb Experiment

#### Speaker

Gary Robertson

15:30–15:45

### A new hydrogen-filled Cherenkov detector for Kaon tagging at NA62

#### Speaker

Angela Romano

15:45–16:00

### Latest results from the NA62 experiment at CERN

#### Speaker

Dr Artur Shaikhiev

16:00–16:15

### New model independent measurement of the CKM angle $\gamma$ with $B \rightarrow D(-\rightarrow KK\pi\pi)h$ at LHCb and BESIII

#### Speaker

Martin Tat

16:15–16:30

### Unbinned amplitude analysis of the decay $B^0 \rightarrow K^{*0} \mu^+ \mu^-$ using a $q^2$ ansatz

#### Speaker

Rui Wang

16:30

17:00

## Parallel stream 4: Session 2

**Session** | **Location:** S2.03, 2nd floor, Bush House | **Convener:** Jeffrey Grube

17:00–17:15

### Use of Gd-WCDs for Extreme Space Weather Monitoring

#### Speaker

Patrick Stowell

17:15–17:30

### The next-generation gravitational-wave observatory

#### Speaker

Stephen Fairhurst

17:30–17:45

### Measuring the flavour ratio of $>1$ TeV astrophysical neutrinos using differences in interaction morphologies at the IceCube Neutrino Observatory

**Speaker**

Rogan Clark

17:45-18:00

**Developing an array of particle detectors to be used for cosmic ray coincidence detection****Speaker**

Mustafa Ozkaynak

18:00-18:15

**Individual anode readout for position reconstruction and tracking with the Spherical Proportional Counter****Speaker**

Ioannis Manthos

18:15-18:30

**Neutron spectroscopy with a high-pressure nitrogen-filled spherical proportional counter****Speaker**

Thomas Neep

18:30-18:45

**Monitoring Tools for the LUX-ZEPLIN Outer Detector****Speaker**

Christopher Wright

18:45

## Wednesday 5 April

11:30

### Parallel stream 4: Session 3

**Session** | **Location:** S2.03, 2nd floor, Bush House | **Convener:** Mark Scott

11:30–11:45

#### Investigating the Preservation and Revival of Raw Bubble Chamber Data

##### Speaker

Andrew Chisholm

11:45–12:00

#### New triggers for long-lived particles which decay in the Inner Detector for the ATLAS detector in Run 3

##### Speaker

Benjamin Kerridge

12:00–12:15

#### FPGA readout commissioning at ProtoDUNE

##### Speaker

Shyam Bhuller

12:15–12:30

#### Neutron-Gamma Detection in Novel Borehole Detectors

##### Speaker

James Greer

12:30

13:30

### Parallel stream 4: Session 4

**Session** | **Location:** S2.03, 2nd floor, Bush House | **Convener:** Konstantinos Nikolopoulos

13:30–13:45

#### Novel Quantum Levitated Sensors For Directional Dark Matter Detection

##### Speaker

Fiona Alder

13:45–14:00

#### DarkSPHERE: Extending light dark matter searches to the neutrino floor with spherical proportional counters in the UK

##### Speaker

Patrick Knights

14:00–14:15

#### How and why to simulate ALPs and cosmologies.

##### Speaker

Dimitrios Karamitros

14:15–14:30

#### Gas Gains in SF<sub>6</sub> on the Order of 10<sup>4</sup> with a Novel Multi-Mesh Thick Gaseous Electron Multiplier for use in a Directional Dark Matter Search

##### Speaker

Alasdair McLean

14:30–14:45

#### Searching for dark tridents with the MicroBooNE detector

**Speaker**

Mr Luis Mora

14:45–15:00

**QUantum Enhanced Superfluid Technologies for Dark Matter and Cosmology**

**Speaker**

Rob Smith

15:00