

**Session Program**

**15-17 Jun 2022**

**Fysikdagarna 2022**

***Sektionen för elementarpartikel och  
astropartikelfysik***

# Wednesday 15 June

09:00

## Sektionen för elementarpartikel och astropartikelfysik: AF Borgen: Nya Fest

Session | Location:

09:00–09:15 **Particle days: Welcome and Introduction**

09:15–09:30 **ATLAS experiment: Overview of activities at KTH**

**Speaker**

Christian Ohm

09:30–09:45

**Search for a supersymmetric long-lived particle at the ATLAS experiment**

**Speaker**

Karl Filip Backman

09:45–10:00

**Search for Higgs-like scalar particles in the  $\gamma\gamma$  final state with the ATLAS experiment.**

**Speaker**

Stefio Yosse Andrean

10:00–10:30 **Break**

10:30–10:45

**Effective Field Theory interpretations of Higgs boson pair production searches in ATLAS**

**Speaker**

Christina Dimitriadi

10:45–11:00 **Status and Prospects of Light Dark Matter eXperiment**

**Speaker**

Ruth Pottgen

11:00–11:15 **The SMARTHEP International Training Network**

**Speaker**

Caterina Doglioni

11:15–11:30 **Differentiable Programming for High-Energy Physics**

**Speaker**

Mr Nathan Daniel Simpson

11:30–11:45 **IPPOG/outreach**

**Speakers**

Jonas Strandberg, Sara Strandberg

11:45–12:00 **High-School/outreach**

12:00

**Speaker**  
Kristian Strid

13:00

## Sektionen för elementarpartikel och astropartikelfysik: AF Borgen: Nya Fest

**Session** | **Location:** | **Conveners:** David Silvermyr, Rikkert Frederix

13:00–13:15

### Phase Transition and Gravitational Wave of Strongly Coupled Dark Sectors

**Speaker**  
Dr Zhi Wei Wang

13:15–13:30

### The electroweak phase transition and Effective Field Theory

**Speaker**  
Rikard Enberg

13:30–13:45

### New methods for studying the Electroweak phase transition

**Speaker**  
Andreas Ekstedt

13:45–14:00

### Fingerprints of freeze-in dark matter in an early matter-dominated era

**Speaker**  
Dr Avik Banerjee

14:00–14:15

### Phase transitions: A source of cosmic-frontier phenomenology

**Speaker**  
Eliel Camargo-Molina

14:15–14:30

### CDF II W-mass anomaly faces first-order electroweak phase transition

**Speaker**  
Roman Pasechnik

14:30–14:45

### A fermionic portal to a non-abelian dark sector

**Speaker**  
Luca Panizzi

14:45–15:00

### Speeding up SM Amplitude Calculations with Chirality Flow

**Speaker**  
Andrew Lifson

15:00–15:30

### Break

15:30–15:45

### Status of the Light Dark Matter KAW project

**Speaker**  
Timon Emken

15:45–16:00

### The SHIFT project: status and prospects

**Speaker**  
Elin Bergeaas Kuutmann

16:00–16:15

### Searching for Vector Dark Matter at Beam Dump Experiments

**Speaker**

Taylor Gray

16:15-16:30

**General Dark Matter Electron Interactions in Detector Materials**

**Speaker**

Einar Urdshals

16:30-16:45

**RECFA/CERN**

**Speakers**

Arnaud Ferrari, David Anthony Milstead

16:45-17:00

**IUPAP**

**Speakers**

Roman Pasechnik, Roman Pasechnik

17:00-17:05

**News from ACCU (slides only, no presentation)**

**Speaker**

Rebeca Gonzalez Suarez

17:05

## Friday 17 June

09:00

### Sektionen för elementarpartikel och astropartikelfysik: Institutionen för astronomi och teoretisk fysik, Lundmarkssalen

Session | Location:

09:00–09:15 **The ESSnuSB Experiment - Conceptual Design and Physics Potential**

**Speaker**

Prof. Tord Ekelöf

09:15–09:30 **Latest Results from the IceCube Neutrino Observatory**

**Speaker**

Chad Finley

09:30–09:45

**Probing X-ray bright blazars as sources of high-energy astrophysical neutrinos with IceCube**

**Speaker**

Ankur Sharma

09:45–10:00

**Detection horizon of neutrinos from core-collapse supernovae using high energy neutrinos**

**Speaker**

Nora Valtonen-Mattila

10:00–10:30 **Break**

10:30–10:45 **New opportunities with IceCube-Gen2**

**Speaker**

Erin O'Sullivan

10:45–11:00

**Pulsars do not produce sharp spectral features in the cosmic-ray positron flux**

**Speaker**

Isabelle John

11:00–11:15 **HIBEAM at the ESS - status and plans**

**Speaker**

Bernnhard Meirose

11:15–11:30 **ALICE activities in Lund**

**Speaker**

Alice Ohlson

11:50