

# Best Poster Award



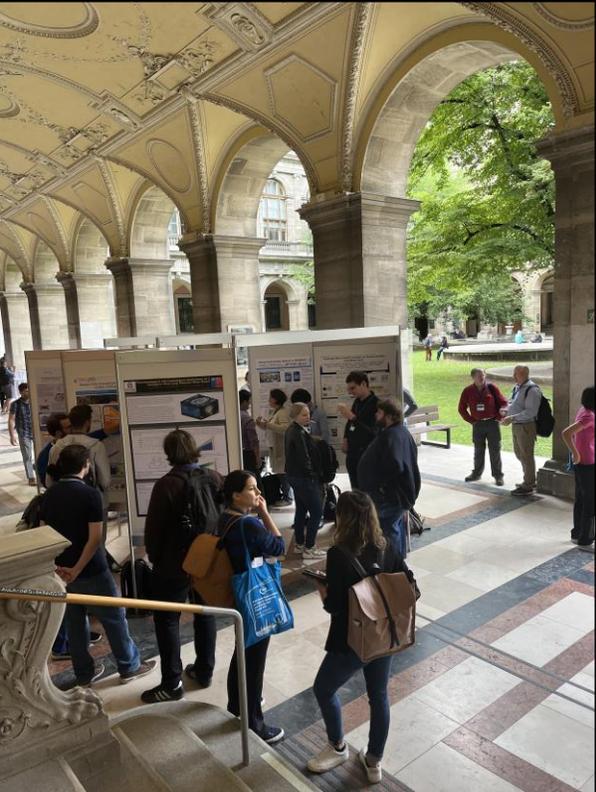
Mokina Valentyna

# TAUP2019, Toyama, Japan



# How many we are?

- ~110 posters
- ~60 young scientists eligible for the award
- 2 sessions
- 5 prizes instead of 3



### SLAC Observation of low-lying isomeric states in $^{136}\text{Cs}$ : a new avenue and solar neutrino detection in xenon detectors

S.J. Hasebecht, B.G. Lemard, S.W. Finch, F.O.L. Friese, C.R. Howell, C.R. Malone, E. M. Ramirez, T. Daniels

**Measuring  $^{136}\text{Cs}$  at Triangle Universities Nuclear Lab**

**Low-energy solar neutrinos**

Low-energy solar neutrinos are produced in the Sun's core and travel through the solar interior. They are a key component of the solar neutrino flux and are being studied to understand the Sun's internal structure and the neutrino oscillation phenomenon.

**The importance of  $^{136}\text{Cs}$  nuclear structure**

$^{136}\text{Cs}$  is a rare isotope of cesium with a half-life of approximately 13 years. It is produced in the solar core and is a key component of the solar neutrino flux. The nuclear structure of  $^{136}\text{Cs}$  is being studied to understand the solar neutrino flux and the neutrino oscillation phenomenon.

**Analysis and results**

The analysis of the  $^{136}\text{Cs}$  data shows a clear signal for the low-lying isomeric states. The results are consistent with the predictions of the solar neutrino flux and the neutrino oscillation phenomenon.

### TAUP A CYCLOTRON CALIBRATION OF A PIETROGRAPIC MICROSCOPE

**Motivation**

Understanding the QCD axion could shed light on the dark matter problem. The axion is a hypothetical particle that is produced in the early universe and is a candidate for dark matter. The axion is being studied to understand the dark matter problem and the QCD axion.

**Detector mechanism**

The detector mechanism involves the conversion of an axion into a photon in a magnetic field. The axion is produced in the early universe and is a candidate for dark matter. The axion is being studied to understand the dark matter problem and the QCD axion.

**Single cycle calibration setup**

The single cycle calibration setup involves the use of a cyclotron to produce a beam of axions. The axions are then converted into photons in a magnetic field. The photons are then detected by a detector. The detector is being calibrated to measure the axion flux.

**Cyrogenic stability**

The cyrogenic stability of the detector is being studied to ensure that it can operate at low temperatures. The detector is being studied to understand the dark matter problem and the QCD axion.

**Conclusions**

The results of the calibration show that the detector is capable of measuring the axion flux. The results are consistent with the predictions of the axion model and the dark matter problem.

**Juan P.A. Maldonado**

TAUP  
TRIANGLE UNIVERSITIES NUCLEAR LAB

### Study of the water Cherenkov experiment

**Water Cherenkov Experiment**

The Water Cherenkov Experiment is a large-scale experiment designed to study the properties of water. The experiment is being conducted at the Triangle Universities Nuclear Lab. The experiment is being studied to understand the dark matter problem and the QCD axion.

**Conclusions**

The results of the experiment show that the water Cherenkov experiment is capable of measuring the axion flux. The results are consistent with the predictions of the axion model and the dark matter problem.

# The beginning and the end



# Best Poster Award Committee

**Alvaro Chavarria**

**Claire Adam Bourdarios**

**Claudia-Elisabeth Wulz**

**David Sinclair**

**Fedor Šimkovic**

**Ines Gil-Botella**

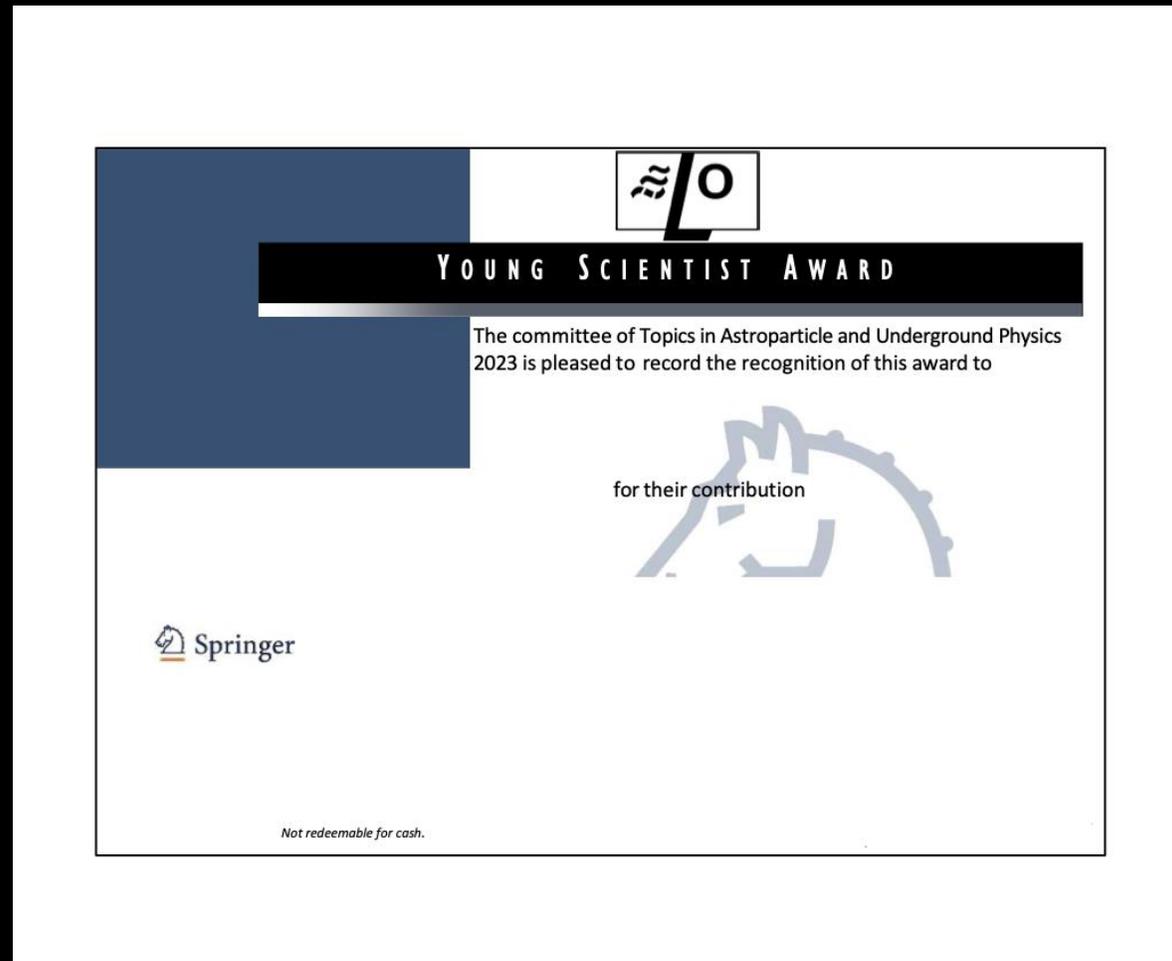
**Laura Cardani**

**Marco Vignati**

**Ruben Saakyan**

**Silvia Scorza**

And winners get 150 euros...



# And the winner is...

- TRISTAN: A novel detector for searching keV-sterile neutrinos at the KATRIN experiment **Korbinian Urban**
- TAXO - Towards an ultra-low background semiconductor detector for IAXO **Christoph Wiesinger**
- Low-background radioactivity counting at the most sensitive HPGe detector in Germany **Steffen Turkat**
- First Results on  $^{170}\text{O}$  Enrichment of  $\text{CaWO}_4$  Crystals for Spin-dependent DM search with CRESST **Angelina Kinast**
- Analysis techniques for the search of neutrinoless double-beta decay of  $\text{Te-130}$  with CUORE **Krystal Alfonso**