

# Workshop on Very Cold and Ultra Cold Neutron Sources for ESS



**Wednesday, 2 February 2022 - Friday, 4 February 2022**

## Scientific Programme

## **UCN/VCN Source Development**

The main topics of this track are related to all the technical aspects of developing UCN and VCN sources at ESS. Within the constraints of the available space in the existing facility, we will explore design ideas for a high-intensity VCN source as well as possibilities for in-pile and in-beam UCN sources, using different materials for moderators, converters, and advanced reflectors.

## **UCN/VCN Material and Libraries**

This track focuses on materials that have potential use in UCN and VCN sources: moderators, converters, reflectors and structural materials. It also includes the development of nuclear data libraries and radiation transport software to model their interaction with low energy neutrons.

## **UCN/VCN Fundamental Physics Applications**

This track focus on the current experiments with UCN and VCN sources for particle physics. Experiments currently running world-wide or foreseen in the future that make of UCN/VCN will be discussed.

Special focus will also be given to proposed experiments at ESS.

## **VCN Condensed Matter Applications**

This focuses on elaborating and discussing the opportunities that VCN can provide in condensed matter research in particular for specific instrument techniques like SANS, Reflectometry and Spin-Echo Spectrometers and their respective science areas. In particular also potential corresponding future instruments at ESS shall be considered.