

SPEAKER: Christopher McCabe

TITLE: **The hunt for light dark matter with  
gas-based detectors**

DATE: 24 Mar 2021, 15:00

PLACE:

#### ABSTRACT

In this talk, I'll discuss ideas for new approaches in the hunt for light dark matter with gas-based detectors. Firstly, I'll discuss the sensitivity that may be achievable through the process of electron ionisation of gas targets in a Spherical Proportional Counter, paying particular attention to the potential benefits of molecular gas targets. Secondly, I'll review the Migdal effect and discuss ongoing attempts to measure the effect for the first time in a nuclear scattering process with a CF<sub>4</sub> gas mixture in an Optical Time Projection Chamber.

Organized by

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