

# **ICEPP Quantum Seminar**

## **Report of Contributions**

Contribution ID: **1**

Type: **not specified**

# Introduction

*Thursday 18 November 2021 10:00 (5 minutes)*

Contribution ID: 2

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## The Fermilab Quantum Science and Technology Program

*Thursday 18 November 2021 10:05 (1 hour)*

Quantum Science and Technology (QS&T) exploits quantum properties of physical systems for acquiring, communicating, and processing information beyond classical capabilities. Successful applications of QS&T are expected to be beneficial, potentially transformational, for sensing, computing, and distributed secure communication applications. In high energy physics (HEP) such applications could enable solutions of numerical problems as well as theoretical and experimental studies of fundamental properties of nature that are not possible with classical approaches. Fermilab leverages existing laboratory expertise and infrastructure and partners with leading QIS&T researchers to pursue high-impact QIS&T R&D in support of HEP science objectives. In my talk I will discuss the Fermilab QIS&T program and its evolution, and highlight the main objectives of our activities; these include investigations for solving theoretical and experimental HEP problems ranging from physical systems simulations, to developing ultra-sensitive detectors and advancing quantum communications.

**Presenter:** SPENTZOURIS, Panagiotis (Fermilab)