

# **Snowmass at LBNL**

## **Report of Contributions**

Contribution ID: 1

Type: **not specified**

## Panel discussion: beyond ton-scale NLDBD

*Friday, 10 December 2021 13:00 (1 hour)*

**Presenters:** POON, Alan; MCKINSEY, Daniel; OREBI GANN, Gabriel (UC Berkeley / LBNL); KAPTANOGLU, Tanner; MEI, Yuan; KOLOMENSKY, Yury

**Session Classification:** Neutrinos

Contribution ID: 2

Type: **not specified**

## Panel discussion: leveraging the 4th DUNE cavern

*Friday, 10 December 2021 14:00 (1 hour)*

**Presenters:** WILKINSON, Callum (LBNL); DWYER, Daniel; OREBI GANN, Gabriel (UC Berkeley / LBNL); LESKO, Kevin (LBNL); ASKINS, Morgan

**Session Classification:** Neutrinos

Contribution ID: 3

Type: **not specified**

## Introduction

*Friday, 10 December 2021 13:00 (10 minutes)*

**Presenter:** NACHMAN, Benjamin

**Session Classification:** High Energy Colliders

Contribution ID: 4

Type: **not specified**

## High-Energy $e^+e^-/\gamma\gamma$ and low-energy demonstrator

*Friday, 10 December 2021 13:10 (50 minutes)*

Continue developing quantitative numbers and physics case at 10 TeV scale towards white paper and for inclusion in Energy and Theory frontier.

**Presenters:** NACHMAN, Benjamin; SCHROEDER, Carl; JACOBS, Peter; KNAPEN, Simon; PAGAN GRISO, Simone

**Session Classification:** High Energy Colliders

Contribution ID: 5

Type: **not specified**

# High-Energy Hadron Colliders

*Friday, 10 December 2021 14:00 (30 minutes)*

**Presenter:** FERRACIN, Paolo

**Session Classification:** High Energy Colliders

Contribution ID: 6

Type: **not specified**

## High-Energy Muon Collider

*Friday, 10 December 2021 14:40 (40 minutes)*

**Presenters:** LI, Derun; RESSEGUIE, Elodie; KRIZKA, Karol; CRAIG, Nathaniel

**Session Classification:** High Energy Colliders

Contribution ID: 7

Type: **not specified**

## Community Frontier lightning talks

*Friday, 10 December 2021 11:30 (25 minutes)*

Lightning talks to introduce IDEA work happening at LBNL, and to introduce the Community Frontier efforts ongoing at LBNL.

Speakers:

Asmita Patel - IDEA activities in ATAP

Alex Kim - IDEA activities in the Physics Division

Erin Hansen - Climate of the Field in CommF

Vetri Velan - Physics Education in CommF

Lotti Obst-Heubl - Industry Engagement in CommF

**Presenters:** KIM, Alex; PATEL, Asmita; HANSEN, Erin; OBST-HUEBL, Lieselotte; Dr KRAVITZ, Scott (Lawrence Berkeley National Lab); VELAN, Vetri

**Session Classification:** Community Engagement



Contribution ID: 8

Type: **not specified**

## Community Frontier discussion

*Friday, 10 December 2021 11:55 (20 minutes)*

Discussion with speakers and workshop participants.

- What are key topics LBNL should focus on?
- What work is being done at LBNL that could be incorporated (or lessons learned from) into Snowmass CommF work?

**Session Classification:** Community Engagement

Contribution ID: 9

Type: **not specified**

## Areas to double down

*Friday, 10 December 2021 15:45 (20 minutes)*

How can we facilitate collaboration across domain science areas, e.g. ML and simulation

Uncertainty quantification / robustness, in particular, early experimental results with ML

**Session Classification:** Machine Learning / Computing

Contribution ID: **10**

Type: **not specified**

## Areas to expand

*Friday, 10 December 2021 16:10 (20 minutes)*

Reinforcement learning

Fast ML?

- AI inference chips on detector?
- We have a lot of experience with electronics, why not fast ML?
- Offline fast inference (in particular, at NERSC and related facilities)

**Session Classification:** Machine Learning / Computing

Contribution ID: **11**

Type: **not specified**

## Building Expertise

*Friday, 10 December 2021 16:35 (20 minutes)*

Trying to keep track of existing efforts in ML and ML \intersect physics

Facilitating informal interactions / workshop-type

- Technical details from various

General register for expertise?

**Session Classification:** Machine Learning / Computing

Contribution ID: **12**

Type: **not specified**

## Heavy Dark Matter

*Friday, 10 December 2021 09:15 (15 minutes)*

**Presenter:** CARNEY, Dan (LBNL)

**Session Classification:** Dark Matter

Contribution ID: **13**

Type: **not specified**

## **LXe G3**

*Friday, 10 December 2021 09:30 (15 minutes)*

**Presenter:** LESKO, Kevin (LBNL)

**Session Classification:** Dark Matter

Contribution ID: 14

Type: **not specified**

## LZ Upgrades - CrystaliZe

*Friday, 10 December 2021 09:45 (15 minutes)*

**Presenter:** SORENSEN, Peter (LBNL)

**Session Classification:** Dark Matter

Contribution ID: 15

Type: **not specified**

## LZ Upgrades - HydroX

*Friday, 10 December 2021 10:00 (15 minutes)*

**Presenter:** MANALAYSAY, Aaron (LBNL)

**Session Classification:** Dark Matter



Contribution ID: **16**

Type: **not specified**

## **TESSERACT Project & HeRALD detector**

*Friday, 10 December 2021 10:15 (15 minutes)*

**Presenter:** MCKINSEY, Dan (UCB/LBNL)

**Session Classification:** Dark Matter

Contribution ID: 17

Type: **not specified**

## SPICE

*Friday, 10 December 2021 10:30 (15 minutes)*

**Presenter:** PYLE, Matt (UCB/LBNL)

**Session Classification:** Dark Matter

Contribution ID: **18**

Type: **not specified**

## TESSERACT R&D

*Friday, 10 December 2021 10:45 (15 minutes)*

**Presenter:** LI, Xinran (LBNL)

**Session Classification:** Dark Matter

Contribution ID: **19**

Type: **not specified**

## Dark Matter - Theory

Contribution ID: **20**

Type: **not specified**

## Dark Matter Theory

*Friday, 10 December 2021 09:00 (15 minutes)*

**Presenter:** KNAPEN, Simon

**Session Classification:** Dark Matter

Contribution ID: **21**

Type: **not specified**

**zoom details**  
**<https://lbnl.zoom.us/j/97098057107?pwd=YUQ0THM0M2gyVlg1VzBzVTEzMkRNQT09>**

Join Zoom Meeting

<https://lbnl.zoom.us/j/97098057107?pwd=YUQ0THM0M2gyVlg1VzBzVTEzMkRNQT09>

Meeting ID: 970 9805 7107

Passcode: 287407

**Session Classification:** Dark Matter