

# Introduction and News

Stefan Söldner-Rembold

DUNE Collaboration Call

8 March 2019

# 330 participants – a new record



# Spokesperson Election



Ed has been re-elected as Spokesperson for a second two-year term

# Long Drift Task Force

- ProtoDUNE-SP has achieved high-levels of liquid argon purity, stable operation at the full design high-voltage, and low noise levels.
- In light of this, we have formed a Task Force to consider the case of TPCs being assembled using the current APAs and CPAs (resulting in either 100 or 50 APAs per module depending on whether the CPAs could safely be moved in the region along the cryostat walls). Other options such as configurations based partially on the current design of the ProtoDUNE-DP detector can also be considered.
- Members: Justin Evans, Alex Himmel, Ettore Segreto (Chair), Francesco Pietropaolo, Flavio Cavanna, Filippo Resnati, Marco Verzocchi
- Will report initial findings at Workshop at CERN, 8-9 May (separate announcement will follow).

# Preliminary Charge

For each of the potential options, we would like the task force to consider

1. What is the effect on the overall fiducial volume of the detector module?
2. What is the effect on TPC performance and resulting impact on DUNE's ability to meet its science objectives?
3. What are the options for incorporating photon detectors and how would any degradation in photon detector performance affect science objectives?
4. What is the potential reduction in the capital cost of the detector module (estimated at a rough level)?
5. What detector components would need to be re-designed and what are the engineering resources and time frame (estimated at a rough level) that would be needed to complete the new design?
6. What are the risks associated with the proposed configuration (e.g. potential impact on the HV stability of detector)?
7. How could we potentially validate the performance of the proposed configuration with the ProtoDUNE cryostats (recognizing that we also want post-LS2 ProtoDUNE operation to validate Module Zero components)?
8. What would be the impact on the staging plan for DUNE FD modules?

# Technical Design Report

- Making excellent progress thanks to Tim's and Sam's leadership and the contributions of editors, analysers, engineers..
- First LBNC review of SP Detector, Physics, and TC on February 28 went well with positive feedback.
- On track to have a complete TDR by the end of July.

Consortium	1st draft	2nd draft	LBNC-1	LBNC-review-1
SP-HV	02-Nov-18	07-Dec-18	21-Dec-18	28-Feb-19
SP-APA	02-Nov-18	16-Dec-18	21-Dec-18	28-Feb-19
SP-DAQ	12-Nov-18	16-Dec-18	21-Dec-18	28-Feb-19
SP-PDS	07-Dec-18	11-Jan-19	25-Jan-19	28-Feb-19
SP-CISC	30-Nov-18	11-Jan-19	25-Jan-19	28-Feb-19
TC	07-Dec-18	11-Jan-19	25-Jan-19	28-Feb-19
PHYSICS	30-Nov-18	11-Jan-19	25-Jan-19	28-Feb-19
SP-CE	14-Dec-18	08-Feb-19	22-Feb-19	28-Feb-19
DP-Electronics	14-Dec-18	08-Feb-19	22-Feb-19	28-Feb-19
Computing Exec Summary	01-Jan-19	08-Feb-19	22-Feb-19	
DP-HV	01-Feb-19	01-Mar-19		
SP-IIC	01-Feb-19	01-Mar-19		
DP-PDS	01-Mar-19	05-Apr-19		
SP-Calibration	01-Mar-19	05-Apr-19		
SP-Exec Summary	01-Mar-19	05-Apr-19		
ND-Exec Summary	01-Mar-19	05-Apr-19		
DP-DAQ	05-Apr-19	10-May-19	31-May-19	
DP-CISC	05-Apr-19	10-May-19	31-May-19	
DP-IIC	10-May-19	07-Jun-19	28-Jun-19	
DP-Calibration	10-May-19	07-Jun-19	28-Jun-19	
DP-CRP	10-May-19	07-Jun-19	28-Jun-19	
DP-Exec Summary	10-May-19	07-Jun-19	28-Jun-19	
Overall Exec Summary	10-May-19	07-Jun-19	28-Jun-19	
TDR Final			26-Jul-19	

# APA Design Review

## DUNE PDR: APA Review

27-28 March 2019

PSL

America/Chicago timezone

### **DUNE Preliminary Design Review (60% Design Review)**

#### **Charge**

#### **Single Phase Detector Anode Panel Assembly**

**7–8 February 2019**

The committee is requested to review the DUNE anode panel assembly (APA) design and determine if it meets the requirements of the preliminary mechanical and electrical design as outlined in the DUNE Far Detector Design Review Plan (DocDB-9564). As reference, the final design review report for ProtoDUNE-SP APA is available in DocDB-4565.

# DUNE Collaboration Database

- In January 2019, we requested that Institutional Board reps update the information for their institution, including effort on various DUNE activities for the calendar year 2018
- We requested this information from the 180 institutions currently registered in the database.
- 103 institutions made entries into the database (most done correctly)
  - These 103 institutions comprise 890 of 1080 collaborators currently entered into the database
  - A few large institutions have not yet responded (they will be pestered)
- We plan to request an update of the database annually in January;
- Results important for planning, resource allocation, review committees, Common Fund.
- Results will only be visible to DUNE management and not be shared directly with Funding Agencies.
- Information collected in this round will not be used to define collaboration membership or authorship.
- Next Steps :
  - Resource Coordinator will reach out to the institutions who have not yet responded
  - Sequence will be starting with those institutions which have the largest number of collaborators



# ND Workshop in Frascati

## DUNE Multi-Purpose Detector Workshop

18-19 March 2019

Europe/Rome timezone

Overview

Detailed Timetable

Registration

... [Modify my Registration](#)

Participant List

Accommodation

How to get to the INFN  
Frascati Labs

The Multi-Purpose Detector is a key component of the DUNE near detector baseline design. This workshop will focus on the magnet and ECAL designs. There will also be sessions of photo-detector applications for the HPgTPC and on the KLOE concept.

The participation is free but the **registration** through the online registration form is required. We invite participants to register by the deadline of March 11th. We also suggest to take care of the **hotel accommodation** as soon as possible.

Workshop Organizers:

Gabriele Sirri, Alan Bross, Alfons Weber, Hiro Tanaka

# Selected DUNE Milestones

- May 2018: Decision on conceptual design of ND
- May 2018: Far Detector Interim Design Report
- July 2018: Completion of DUNE prototypes at CERN (SP/DP)
- Mar 2019: RRB reviews status of responsibility matrix for at least first two FD modules
- April 2019: FD TDR submitted (including ND CDR summary)
- July 2019: LBNC and Neutrino Cost Group Review of DUNE TDR
- Sep 2019: RRB to approve responsibility matrix for first two FD modules
- Oct 2019: CD2/3b Review of LBNF and US DUNE FD scope
- 2020: LBNC and Cost Group Review of Near Detector TDR, followed by CD2 for near site CF, US DUNE ND scope
- 2021/2022: Post-LS2 running of ProtoDUNE

COMPLETED

NEXT WEEK

# Deep Underground Neutrino Experiment (DUNE)

## Submission for the 2020 Update to the European Strategy for Particle Physics



December 18, 2018

The DUNE Collaboration<sup>1</sup>

The 2013 European Strategy for Particle Physics (ESPP) identified the long-baseline neutrino programme as one of the four scientific objectives that require international collaboration. This strong recommendation led to the formation of DUNE as an international collaboration in 2015, combining the efforts of LBNO in Europe, LBNE in the US, and many other global partners. DUNE is designed to be the world's premier neutrino observatory with the potential of answering fundamental questions about the nature of the neutrino and its impact on the matter-antimatter asymmetry in the Universe. The DUNE Collaboration now includes CERN and 14 of its member states. The CERN Neutrino Platform and several European funding agencies have played a crucial role in the design, construction, and operation of the ProtoDUNE detectors. We therefore recommend that the European Strategy update will identify DUNE as a priority of the future European neutrino programme.

<sup>1</sup>Spokespersons: Ed Blucher (edward.blucher@cern.ch), Stefan Söldner-Rembold (stefan.soldner-rembold@cern.ch)

CERN Council Open Symposium on the Update of

# European Strategy for Particle Physics

13-16 May 2019 - Granada, Spain



### Physics Preparatory Group

Halina Abramowicz (Chair)  
Shoji Asai Beate Heinemann  
Stan Bentvelsen Xinchou Lou  
Caterina Biscari Krzysztof Redlich  
Marcela Carena Leonid Rivkin  
Jorgen D'Hondt Paris Sphicas  
Keith Ellis Brigitte Vachon  
Belen Gavela Marco Zito  
Gian Giudice Antonio Zoccoli

### Local Organizing Committee

Francisco del Águila Juan José Hernández  
Antonio Bueno (Chair) Mario Martínez  
Alberto Casas Carlos Salgado  
Nicanor Colino Benjamín Sánchez Gimeno  
Javier Cuevas José Santiago  
Elvira Gámiz  
María José García Borge  
Igor García Irastorza  
Eugení Graugés

<https://cafpe.ugr.es/eppsu2019/>

eppsu2019@pcgr.org



# Today's Agenda

## Collaboration Monthly Meeting

chaired by Stefan Soldner-Rembold (University of Manchester)

Friday, 8 March 2019 from **09:00** to **11:00** (US/Central)

Manage ▾

### Friday, 8 March 2019

- |               |  |   |
|---------------|--|---|
| 09:00 - 09:10 | <b>Introduction and News 10'</b><br>Speaker: Prof. Stefan Soldner-Rembold (University of Manchester)                   | ▾ |
| 09:10 - 09:35 | <b>The DUNE DAQ System 25'</b><br>Speaker: Georgia Karagiorgi (Columbia University)                                    | ▾ |
| 09:35 - 09:50 | <b>ProtoDUNE Dual-Phase Installation Progress 15'</b><br>Speaker: Dominique Duchesneau (LAPP, CNRS-IN2P3)              | ▾ |
| 09:50 - 10:10 | <b>ProtoDUNE-SP Analysis and Space Charge Effects 20'</b><br>Speaker: Prof. Michael Mooney (Colorado State University) | ▾ |
| 10:10 - 10:20 | <b>HV and Purity Results from ProtoDUNE-SP 10'</b><br>Speaker: Dr. Serhan Tufanli (Yale University)                    | ▾ |