



LIDINE 2021: Light Detection in Noble Elements

Sep. 14 - 17, 2021

Hosted by: University of California San Diego

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LIDINE Conferences

- **LIDINE 2013 at Fermilab:** *to promote discussion between members of the particle and nuclear physics community **about light collection in detectors based on noble elements**. The neutrino community, which is now developing light collection systems for LArTPCs such as MicroBooNE and LBNE, are relative newcomers to this type of detection. However, while there are established groups in the dark matter search community and the ultra-cold neutron study community, there has never been a dedicated conference on the light collection techniques for these detectors. Therefore, this will be a unique opportunity to exchange information and for the neutrino community in the US to expand its knowledge base.*
- **LIDINE 2015 in Albany, NY**
- **LIDINE 2017 at SLAC**
- **LIDINE 2019 in Manchester, UK**
- **LIDINE 2021 hosted by UC San Diego (online):** *to promote the discussion between members of the particle and nuclear physics community **about detector technologies based on noble elements** and their applications, such as for dark matter, neutrino oscillations, solar and supernova neutrinos, coherent elastic neutrino-nucleus scattering, neutrinoless double-beta decay, neutron EDM, and medical physics.*

2021: a unique LIDINE conference

- **A fast growing field:** 102 contributed talks, including 7 posters. (LIDINE13 - 38, LIDINE17 - 54, LIDINE19 - 61). Covering areas:
 - Applications (dark matter, neutrinos, medical physics etc.)
 - Light/charge response in noble elements
 - Light/charge readout
 - Detector techniques (HV, purification, cryogenics, calibration etc.)
 - Signal reconstruction and identification (analysis methods, simulation)
- **A global community:** 185 registered participants (LIDINE19 - 80)
- **An online conference**
 - Keep the tradition with only plenary sessions
 - Virtual “coffee breaks” in gather.town: join and discuss with your “long time no see” colleagues.
 - First time “LIDINE Poster Awards”: view posters in gather.town, discuss with the presenter on Wednesday’s poster session, and vote (link will be sent to all participants)
 - A conference photo will be taken on Zoom tomorrow right after the first session (get ready, turn your camera on!)

Thanks to the Organizing Committee

- Janet Conrad (MIT)
- Marcin Kuźniak (AstroCeNT, Poland)
- Qing Lin (Univ. of Science and Technology of China)
- Maria Elena Monzani (SLAC)
- Kaixuan Ni (UC San Diego)
- Roberto Santorelli (CIEMAT, Spain)
- Marco Selvi (INFN, Bologna)
- Andrzej Szalc (Univ. of Edinburgh)
- Matthew Szydagis (Univ. at Albany)
- Denver Whittington (Syracuse Univ.)
- Liang Yang (UC San Diego)

The Program

- 3 sessions each day (except on Friday there will be 2 sessions)
- 3 keynote talks today
 - Elena Gramellini (Fermilab): LArTPC for Neutrino Detection
 - Jingke Xu (LLNL): Noble Element Detectors for Rare Event Searches
 - Veljko Radeka (BNL): Charge and Light Sensing in Noble Liquid TPCs
- **Speakers:** most talks are 15 min, including Q&A. please leave some time for discussion.
- **Participants:** view slides (if available) before the session and prepare to ask questions (use “Raise Hand” button to ask questions on Zoom)
- **Recordings:** we will record all talks and will make them available for viewing after the conference (with speaker’s consent)
- **Proceedings:** we will have the conference proceedings published at JINST. More information will be provided later via email.