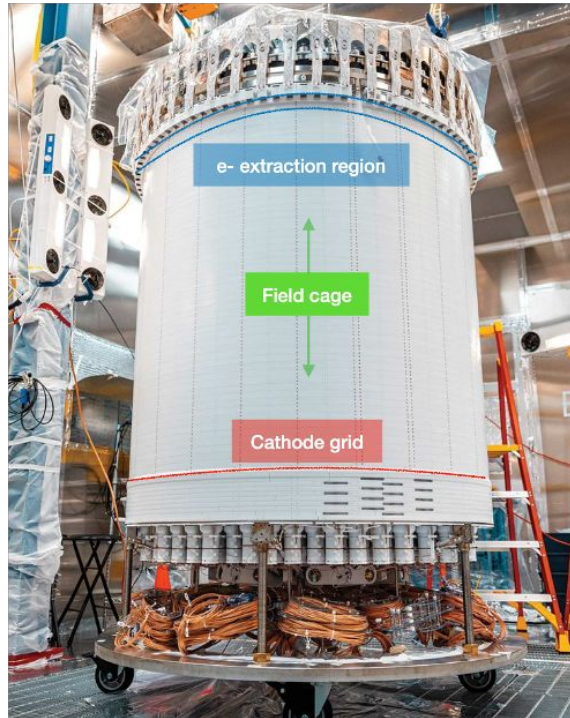
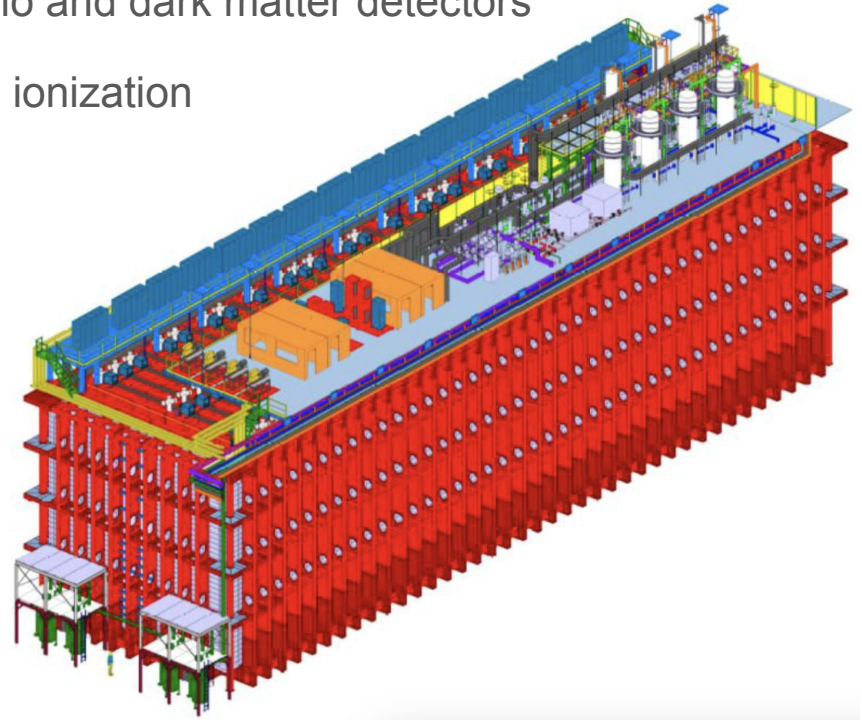


# TG2: noble liquid detectors



Liquid argon and xenon detectors are among the most sensitive neutrino and dark matter detectors

Scintillation and ionization



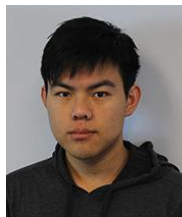
# TG2 - mentors and students

## University Mentors:

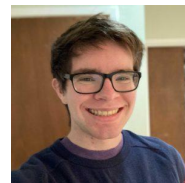
- [David Caratelli](#) (UC Santa Barbara)
- [Alvine Kamaha](#) (UC Los Angeles)
- [Kevin Lesko](#) (UC Berkeley)
- [Hugh Lippincott](#) (UC Santa Barbara)
- [Xiao Luo](#) (UC Santa Barbara)
- [Kaixuan Ni](#) (UC San Diego)
- [Emilija Pantic](#) (UC Davis)
- [Mani Tripathi](#) (UC Davis)
- [Shawn Westerdale](#) (UC Riverside)
- [Liang Yang](#) (UC San Diego)

## Laboratory Mentors:

- [Daniel Akerib](#) (SLAC)
- [Sowjanya Gollapinni](#) (LANL)
- [Aaron Manalaysay](#) (LBNL)
- [Kevin Lesko](#) (LBL)
- [Tom Shutt](#) (SLAC)
- [Hirohisa Tanaka](#) (SLAC)
- [Yun-Tse Tsai](#) (SLAC)
- [Jingke Xu](#) (LLNL)



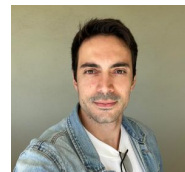
Jianyang Qi  
(UCSD)  
Spring 2022



Ryan Gibbons  
(UCB)  
Fall 2023



Jimmy Kingston  
(UCD)  
Winter 2023



Alex Antonakis  
(UCSB)  
Fall 2023

Noah Hood (UCSD, Winter 2023) and Aras Repond (UCR, Fall 2024) are both TG3 & TG2



Alec Peck  
(UCR)  
Fall 2023

# TG2 - lectures and lab module

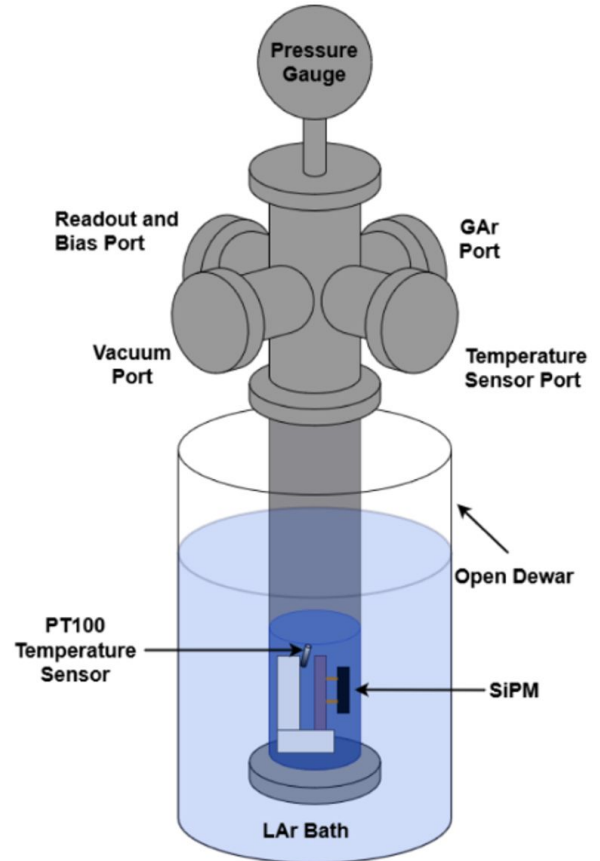
## Summer school lectures:

Aaron Manalaysay - Noble Liquid Detectors in DM & DBD (2023)

Tom Shutt - Noble Liquid Detectors (2022, 2024)

## Liquid argon lab module:

- Portable liquid argon scintillation demonstrator
- Basic cryogenics, vacuum, gas handling, etc
- RTD read out by Arduino for temperature monitoring
- SiPM w/ amplifier for signal readout
- Oscilloscope and Labview for waveform acquisition
- Simple analysis of event waveform



# TG2 summary

## What has worked well:

- We have a large group of mentors with strong instrumentation capabilities
- Many excellent students apply for HEPCAT fellowship through TG2
- Fellows often work outside home institutions
  - Alex @BNL/Fermi, Jimmy, Jianyang and Alec @LLNL, Noah @SLAC, Ryan @LBL
- Strong instrumentation training for fellows

## What can be improved:

- We often struggle to support all student applications
- I wish there can be more inter-TG communications and collaborations (we share strong interests with TG3/photosensors, TG8/electronics)
  - Shall we encourage inter-TG applications and make sure the students actually work with multiple TGs?
- Can we give students more opportunities to present their research
  - Maybe consortium seminars after their midterm reports/or near end of fellowship?