



SBC

# Scintillating Bubble Chamber (SBC) for Detecting Dark Matter

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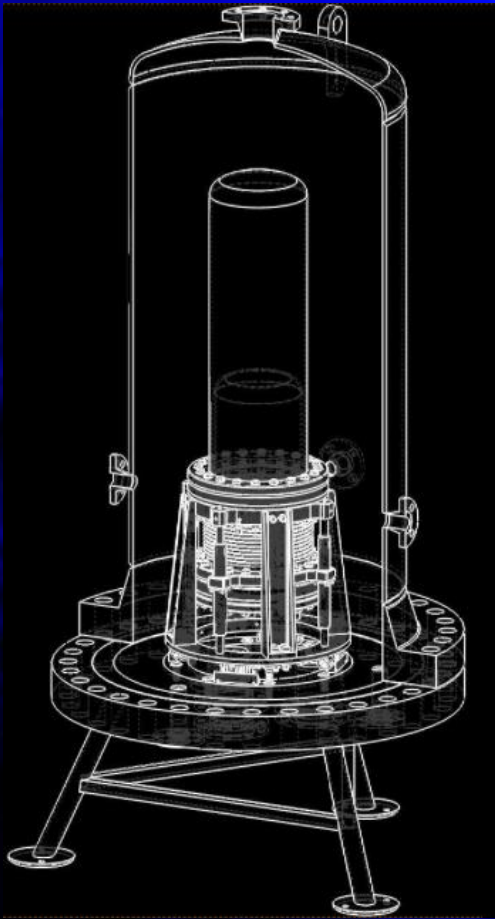
K. Clark, and P. Giampa

on behalf of the SBC collaboration

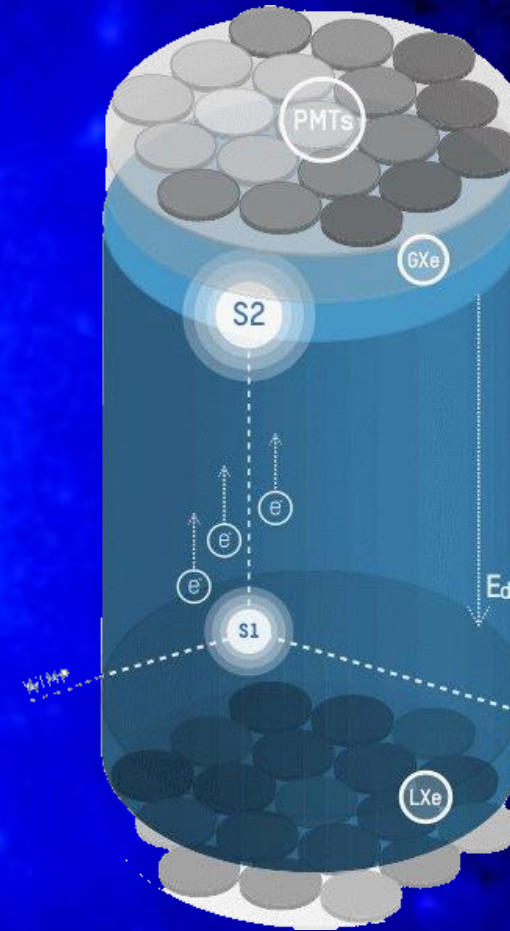


Queen's  
UNIVERSITY

# Combination of two technologies



Bubble Chambers



Liquid noble gases



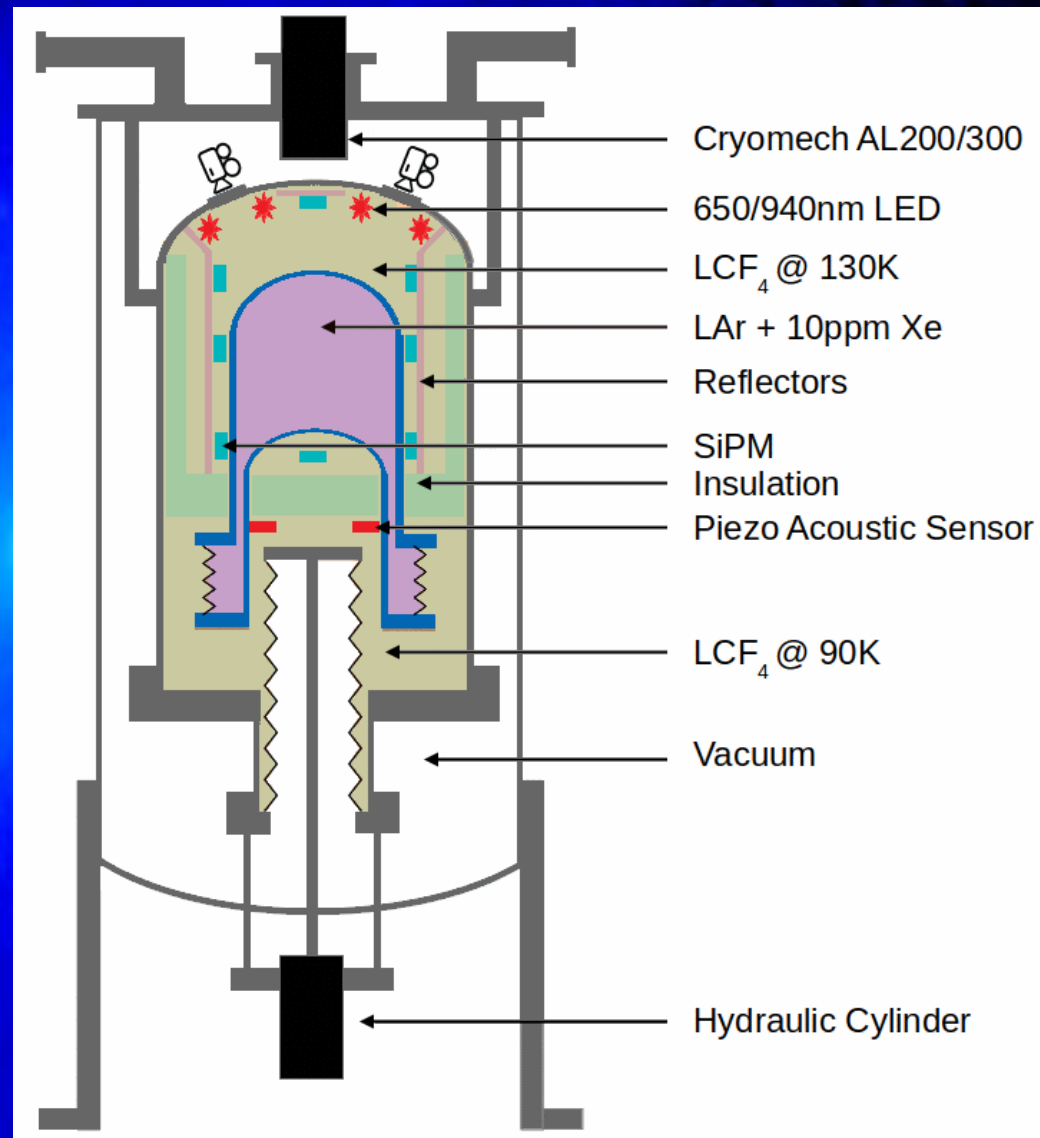
First prototype tested  
in  
Northwestern  
University  
with 30-g of Xenon



# Current Project: 5L of liquid Argon

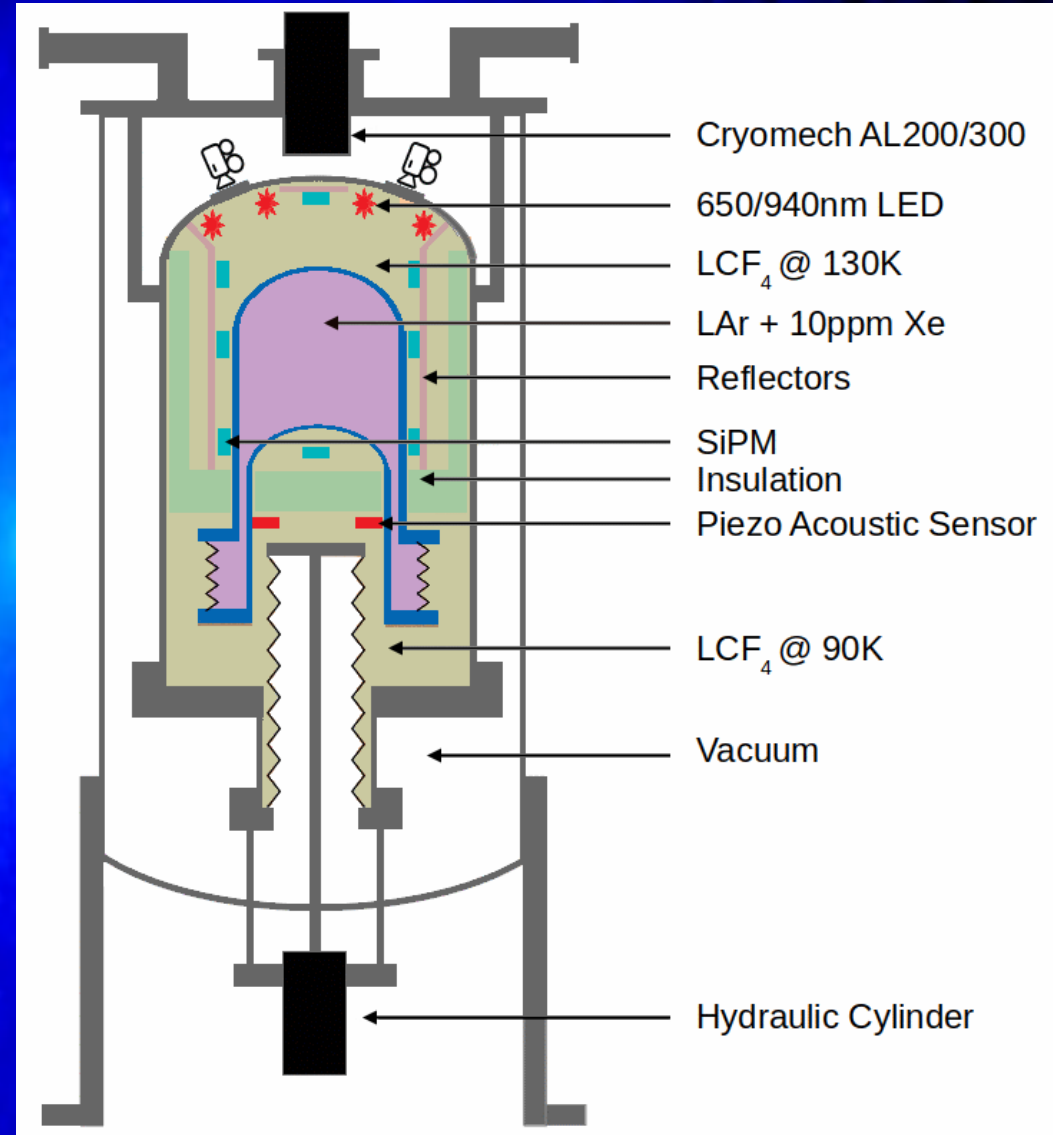
## Objectives:

- Look for low-mass WIMP targets.
- Measure the neutrino floor.
- Lower the sensitivity to backgrounds.



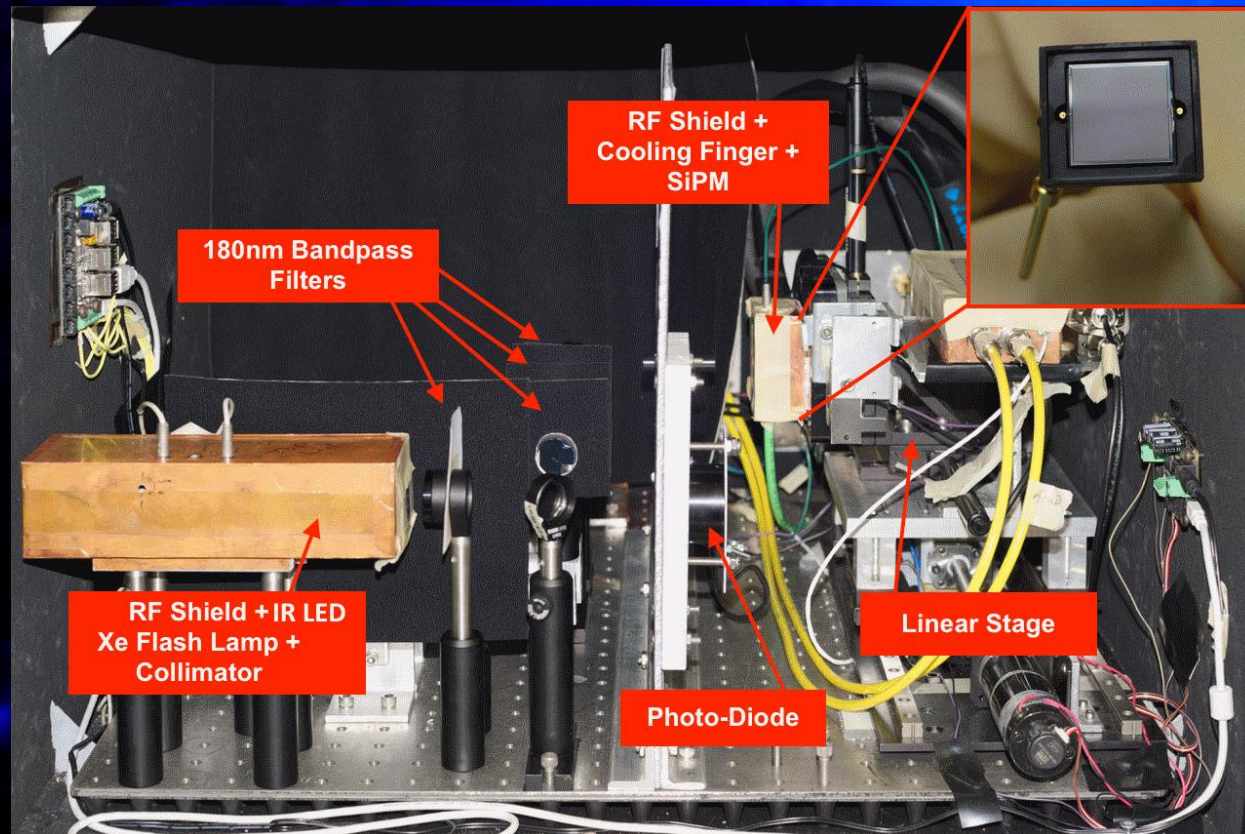
# Challenges:

- Design a system that can withstand cryogenic temperatures and extreme pressure cycles.
- Pack all the sensors inside to maximize light, pressure, temperature, and sound collection.
- Calibration required to reach the 100eV threshold.

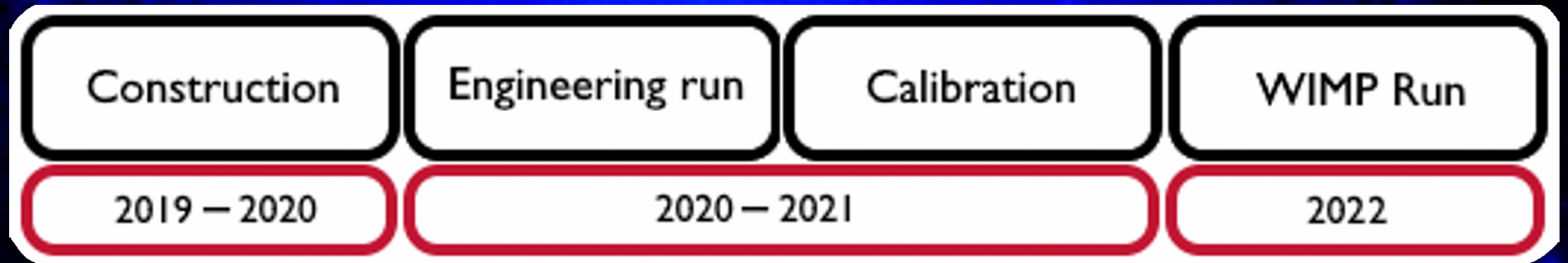




# Current work in progress: SiPMs testing



# Timeline



- Finish construction at Fermilab for testing by the end of the year.
- It will be moved to SNOLAB for calibrations and physics runs the next year.



Thank you!