

LAr R&D Progress Updates

Yichen

10/14/25



Lab Safety and Space Management

▸ **Unplanned power outage 10/09**

- Unexpected interruption during switch of transformers
- Only about 1 second power outage
- Multiple devices impacted on the 3rd floor
- Should not be such incident in the future

▸ **Water leakage into highbay during storm**

- Shanshan observed water on the floor on Monday
- Most likely due to the storm pushing water through the bottom of rolling door
- The water went pretty far this time to the floor drain
- Looking for putting water barrier in the future

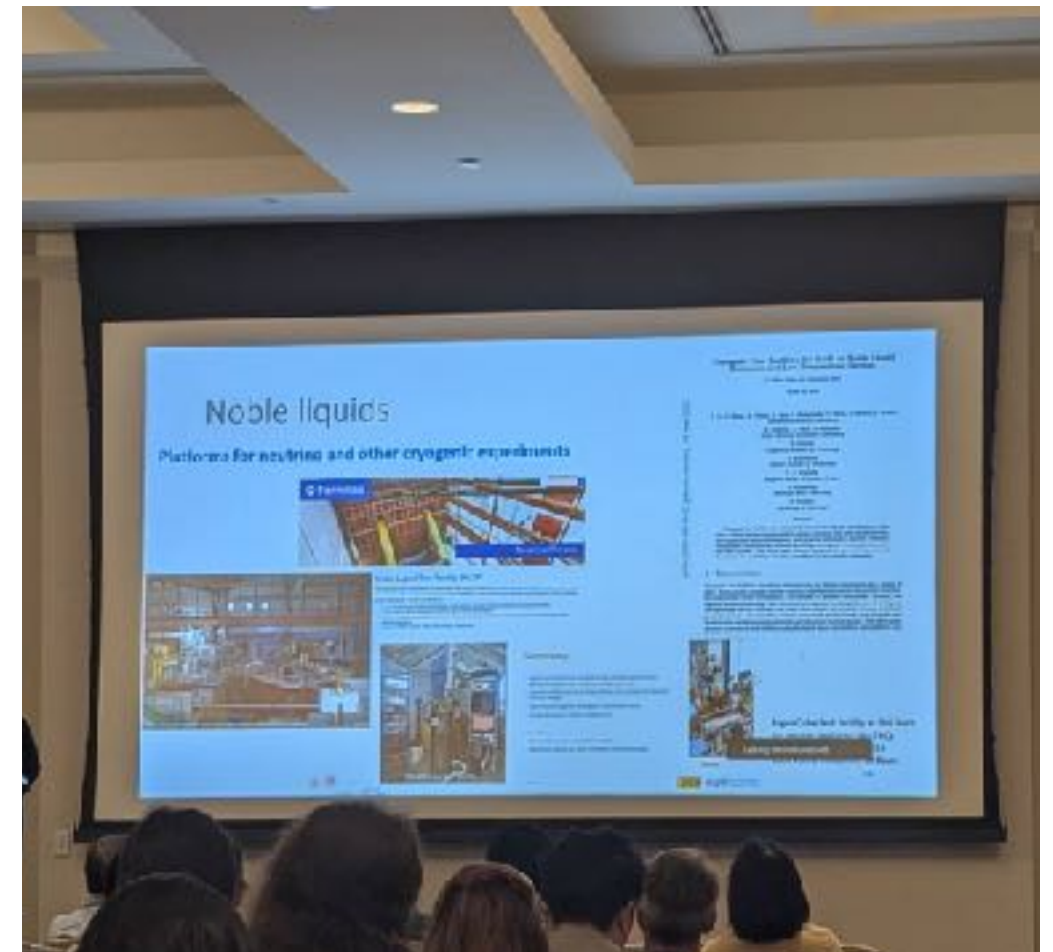
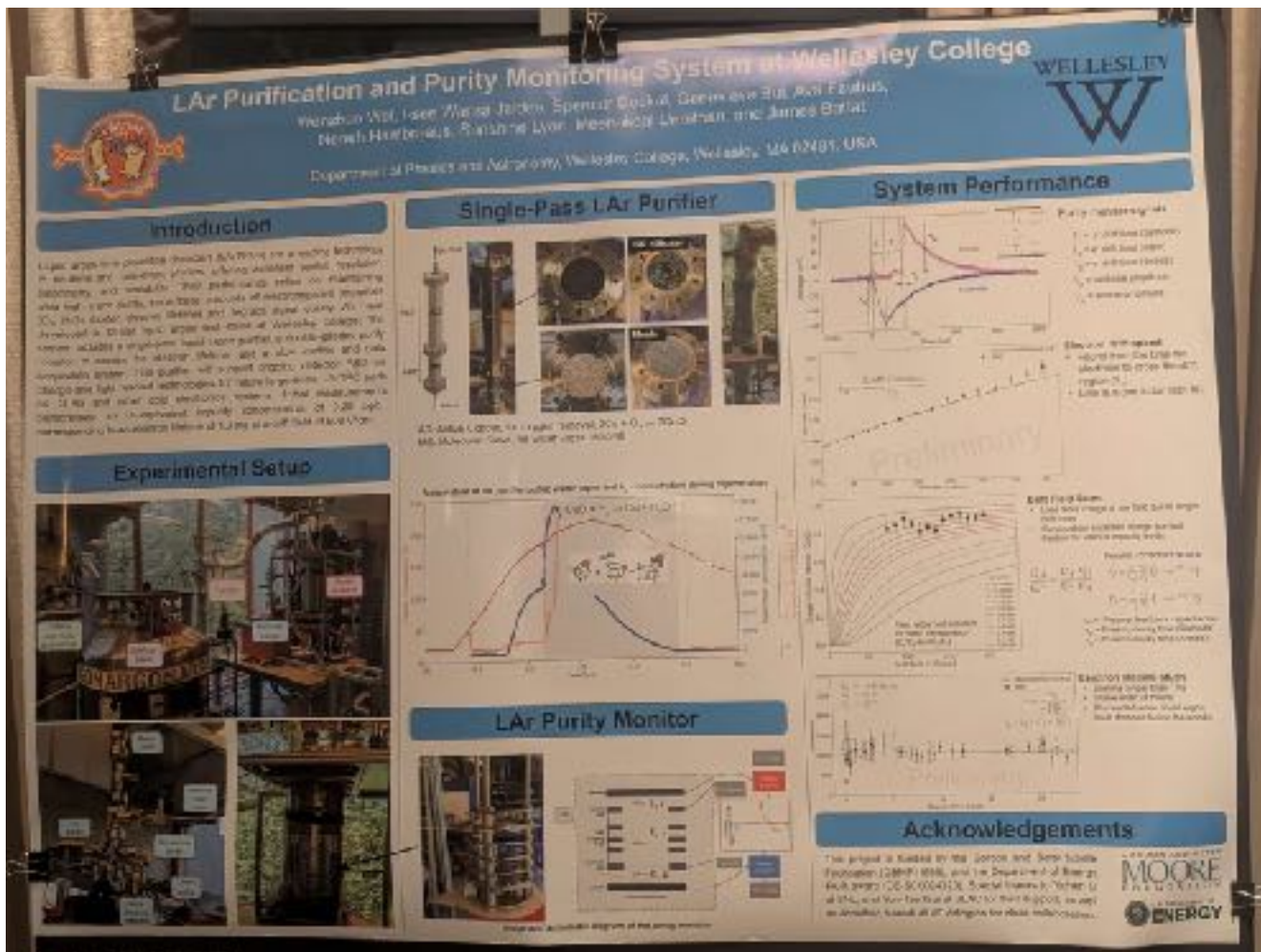


CPAD 2025 Summary

- Due to government shutdown, no presentation from DOE and NSF
 - Helmut was online in the session
 - His remarks are available online https://indico.global/event/14966/contributions/135405/attachments/63073/121771/CPAD%20Workshop_2025_HEP%20Detector%20R&D.pdf
 - Will collection of question online doc: https://docs.google.com/presentation/d/1mNF2t--FPUCo1LyTnFtdakiP6DXwjCUv5IGb1mGMmIE/edit?slide=id.g3859f02526e_0_15#slide=id.g3859f02526e_0_15
 - More technical then previous meetings
 - Attendance is lower than before
 - 2023: 273—> 2024: 240—> 2025: 213
 - CPAD 2026 will be at Seattle hosted by UW and PNNL

CPAD 2025 Summary

- LAr R&D summary
 - My talk was at the RDC 1&2&7 Noble & Photo & Low background session
 - Wellesley presented their 12-L system using our setup as the reference design achieved 1ms lifetime
 - Our 260-L test stand was mentioned on the noble liquid facility plenary talk
 - Fermilab lab presented NLTF: https://indico.global/event/14966/contributions/133721/attachments/63345/122251/NLTF_CPAD.pdf



CPAD 2025 Summary

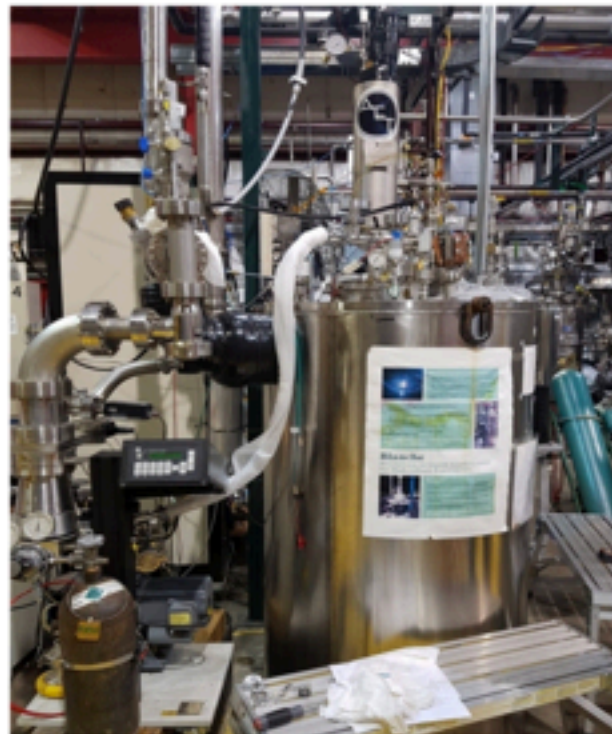
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Recent R&D and tests @NLTF



Luke / MTS (250L)

*Small detector tests
Xe doping studies
Material tests*



Blanche (450L)

*HV studies
SBND PrM
Doping studies
TinyTPC
LArCADE*



Tall Bo (450L)

*NIR/VUV
LAr prop. scintillation
LILAr
LArS
DUNE VD laser diode test
ACCBAR*



Iceberg (3000L)

*DUNE cold electronics & HV
DUNE VD photon detector
POF/SOF R&D
Filtration tests*

+ GOAT @ IERC
GORG (T. Mohayai, RDC 6)